

\*\* Please return all attachments with search results. Thanks.

SEARCH REQUEST FORM  
Scientific and Technical Information Center

Access DB#

184132  
186873

Requester's Full Name: MOLLY CEPERLEY Examiner #: 59757 Date: 04/04/06  
Unit: 1641 Phone Number 302-0813 Serial Number: 10/477,619  
Mail Box and Bldg/Room Location: Rem 3A51 Results Format Preferred (circle): PAPER DISK E-MAIL  
Rem 3C70

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: 05/14/01

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

① Please search for the compound fragment circled in red in FIGURE 1 (ignore I symbols).

See claims attached: method for labeling a molecule.

Considered  
5-23-06



Attorney Docket: P-IS 4693  
Inventors: Aabersold and Zhou

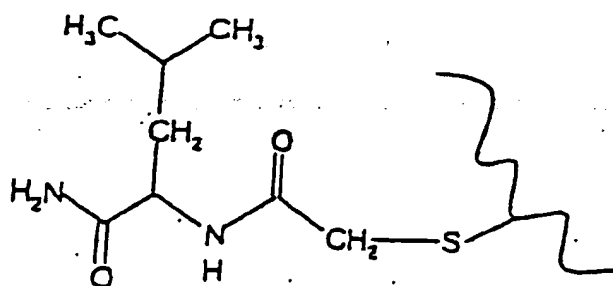
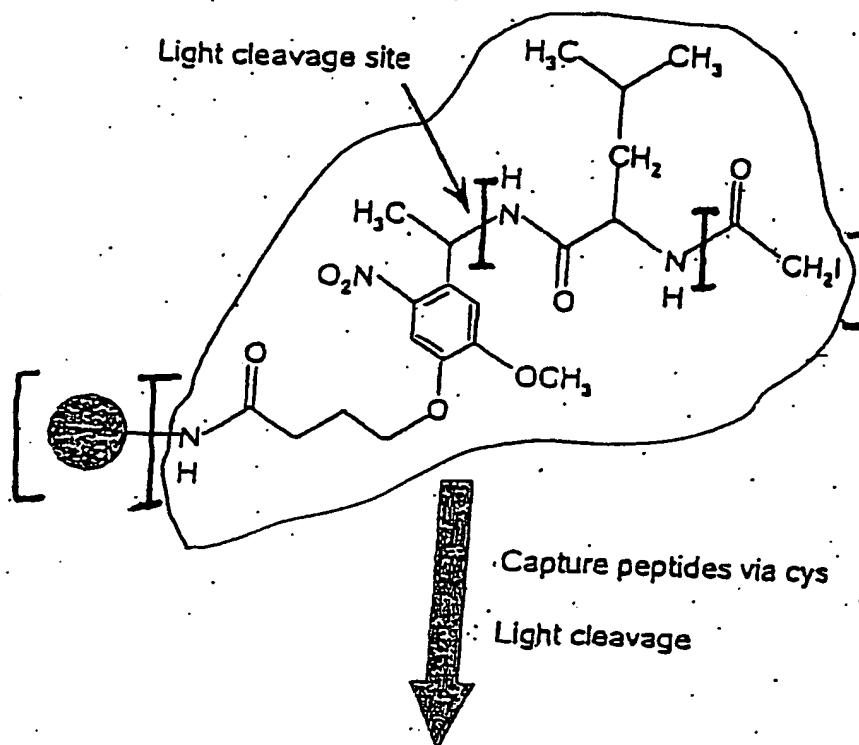
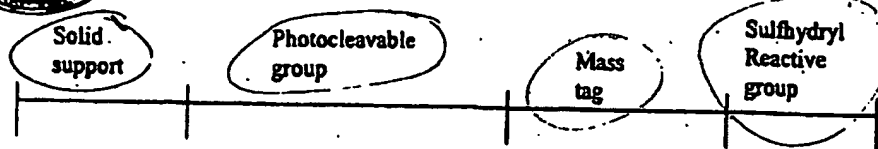


FIGURE 1

=> d ibib abs hitstr 113 1-1

L13 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:459238 HCAPLUS

DOCUMENT NUMBER: 141:152865

TITLE: Characterization of TAT-Mediated Transport of Detachable Kinase Substrates

AUTHOR(S): Souhayer, Joseph S.; Wang, Yan; Li, Huaina; Cheung, Shing-Hu; Rossi, Frank M.; Stanbridge, Eric J.; Sims, Christopher E.; Allbritton, Nancy L.

CORPORATE SOURCE: Department of Physiology and Biophysics and Department of Microbiology and Molecular Genetics, College of Medicine, University of California, Irvine, CA, 92697, USA

SOURCE: Biochemistry (2004), 43(26), 8528-8540

CODEN: BICHAW; ISSN: 0006-2960

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The conjugation of peptides derived from the HIV TAT protein to membrane-impermeant mols. has gained wide acceptance as a means for intracellular delivery. Numerous studies have addressed the mechanism of uptake and kinetics of TAT translocation, but the cytosolic concns. and bioavailability of the transported cargo have not been well-characterized. The current paper utilizes a microanal. assay to perform quant. single-cell measurements of the concentration and accessibility of peptide-based

substrates for protein kinase B (PKB) and Ca<sup>2+</sup>/calmodulin-activated kinase II. The substrate peptide and TAT were conjugated through a releasable linker, either a disulfide or photolabile bond. Free substrate peptide concns. of .apprx.10<sup>-20</sup>-10<sup>-18</sup> moles were attainable in a cell when substrates were delivered utilizing these conjugates. The substrate peptides delivered as a disulfide conjugate were often present in the cytosol as several oxidized forms. Brief exposure of cells loaded with the photolabile conjugates to UVA light released free substrate peptide into the cytosol. Substrate peptide delivered by either conjugate was accessible to cytosolic kinase as demonstrated by the efficient phosphorylation of the peptide when the appropriate kinase was active. After incubation of the conjugated substrate with cells, free, kinase-accessible substrate was detectable in less than 30 min. Release of the majority of loaded substrate peptide from sequestered organelles occurred within 1 h. The utility of the photocleavable conjugates was demonstrated by measuring the activation of PKB in 3T3 cells after addition of varying concns. of platelet-derived growth factor.

IT 731017-29-1D, fluorescein labeled

RL: ARG (Analytical reagent use); BSU (Biological study, unclassified);

ANST (Analytical study); BIOL (Biological study); USES (Uses)

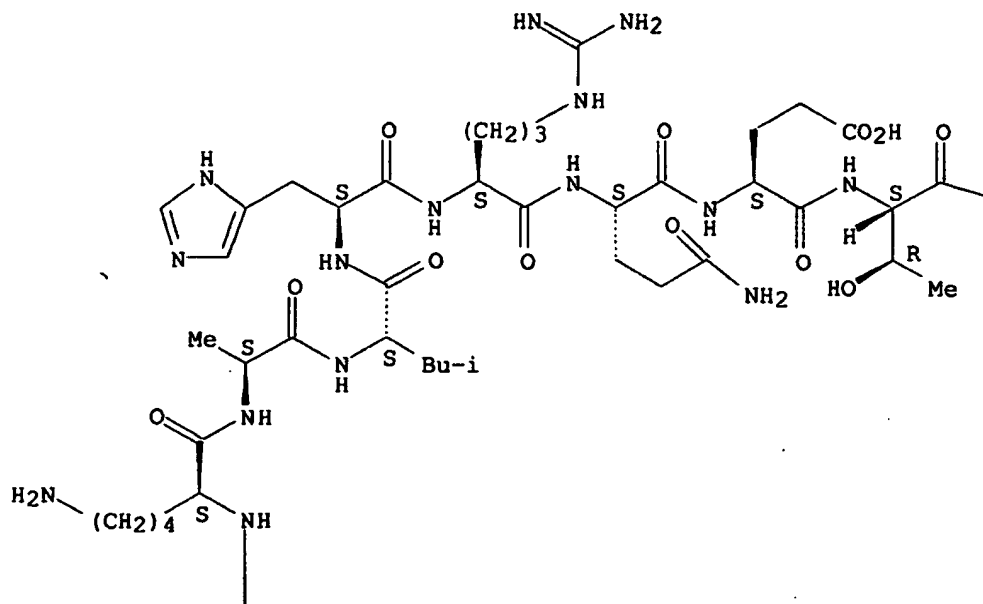
(characterization of TAT-mediated transport of detachable kinase substrates as probes of cytoplasmic kinase activity in single cells)

RN 731017-29-1 HCAPLUS

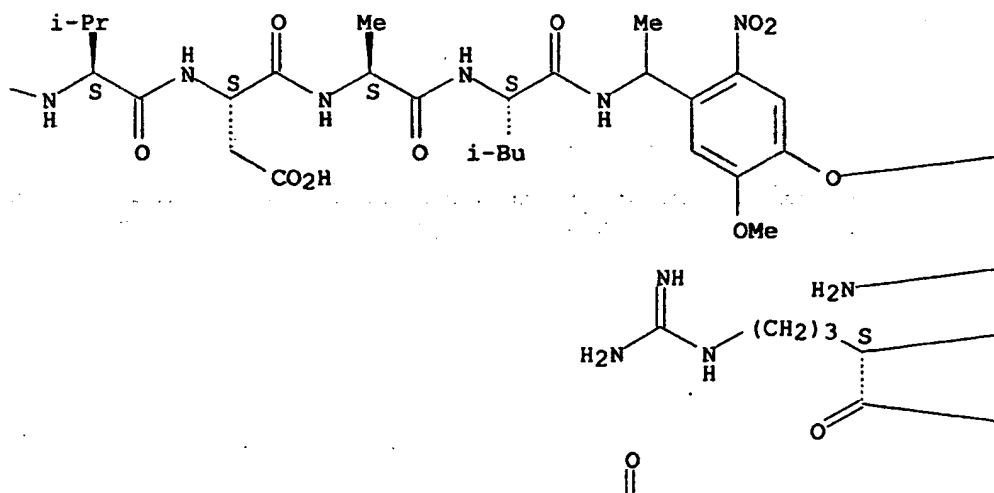
CN L-Arginine, L-lysyl-L-lysyl-L-alanyl-L-leucyl-L-histidyl-L-arginyl-L-glutamyl-L- $\alpha$ -glutamyl-L-threonyl-L-valyl-L- $\alpha$ -aspartyl-L-alanyl-L-leucyl-4-[4-(1-aminoethyl)-2-methoxy-5-nitrophenoxy]butanoyl-L-arginyl-L-lysyl-L-lysyl-L-arginyl-L-arginyl-L-glutamyl-L-arginyl-L-arginyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

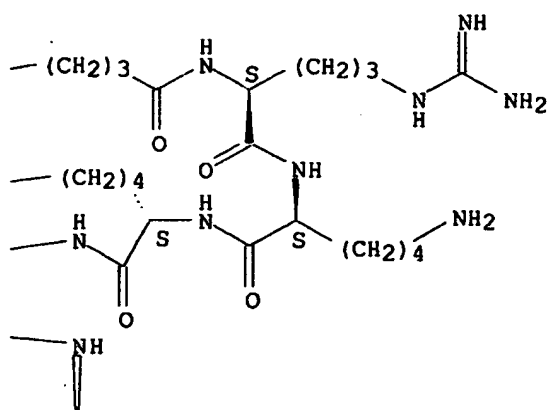
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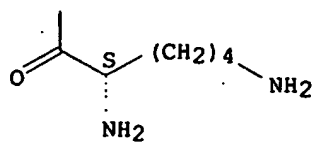
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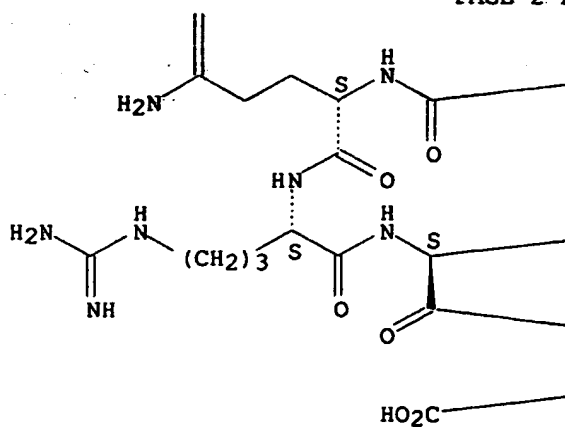
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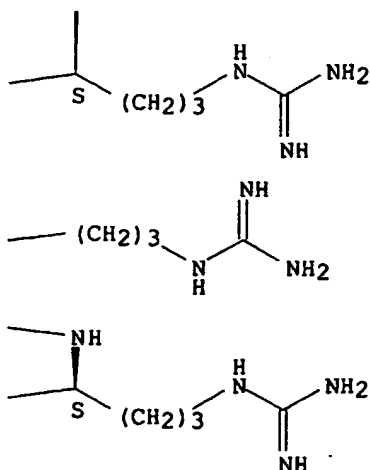
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PAGE 2-B



PAGE 2-C

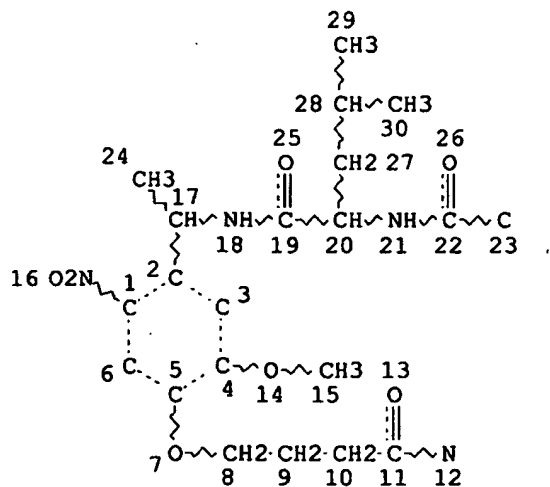


REFERENCE COUNT:

61

THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

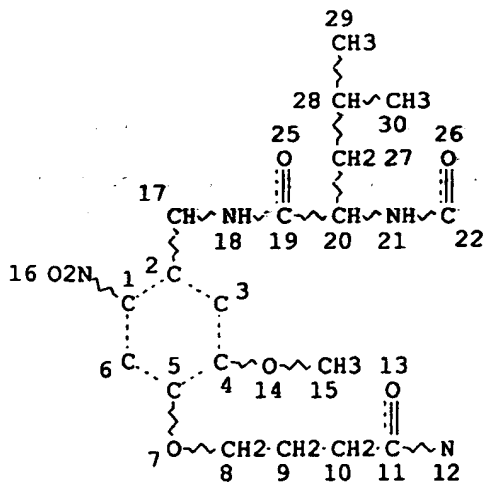
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L4 STR



NODE ATTRIBUTES:  
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE  
L6 1 SEA FILE=REGISTRY SSS FUL L4  
L7 1 SEA FILE=HCAPLUS ABB=ON L6  
L8 STR



NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE

L10 1 SEA FILE=REGISTRY SSS FUL L8  
L11 1 SEA FILE=REGISTRY ABB=ON L7 OR L10  
L12 1 SEA FILE=HCAPLUS ABB=ON L11  
L13 1 SEA FILE=HCAPLUS ABB=ON L12 AND (?SOLID?(W)?SUPPORT? OR  
?PHOTOCLEAV? OR ?MASS?(W)TAG? OR ?SULFHYDRYL?(W)?REACT?(W)?GROU  
P?)



Ceperley 10/477,619

24/04/2006

=> d his ful

(FILE 'HOME' ENTERED AT 16:51:36 ON 24 APR 2006)

FILE 'REGISTRY' ENTERED AT 16:51:43 ON 24 APR 2006

L1 STR  
L2 0 SEA SSS SAM L1  
L3 0 SEA SSS FUL L1  
L4 STR L1  
L5 0 SEA SSS SAM L4  
L6 1 SEA SSS FUL L4

FILE 'HCAPLUS' ENTERED AT 16:58:47 ON 24 APR 2006

L7 1 SEA ABB=ON L6

FILE 'REGISTRY' ENTERED AT 17:00:08 ON 24 APR 2006

L8 STR L6  
L9 0 SEA SSS SAM L8  
L10 1 SEA SSS FUL L8  
L11 1 SEA ABB=ON L7 OR L10

*1 compd. from Registry*

FILE 'HCAPLUS' ENTERED AT 17:02:29 ON 24 APR 2006

L12 1 SEA ABB=ON L11  
L13 1 SEA ABB=ON L12 AND (?SOLID?(W)?SUPPORT? OR ?PHOTOCLEAV? OR  
?MASS?(W)?TAG? OR ?SULFHYDRYL?(W)?REACT?(W)?GROUP?)  
L14 0 SEA ABB=ON L13 AND (PRD<20010514 OR PRD<20010514)

*1 cit from Cit. Plus\**

FILE 'USPATFULL' ENTERED AT 17:03:54 ON 24 APR 2006

L15 0 SEA ABB=ON L12 AND (?SOLID?(W)?SUPPORT? OR ?PHOTOCLEAV? OR  
?MASS?(W)?TAG? OR ?SULFHYDRYL?(W)?REACT?(W)?GROUP?)

*0 cite from USPatfull*

FILE 'USPATFULL' ENTERED AT 17:13:43 ON 24 APR 2006

L16 0 SEA ABB=ON L11

*0 cite in USPatfull*

FILE 'HCAPLUS' ENTERED AT 17:14:33 ON 24 APR 2006

SAV L12 CEP619L12/A

FILE 'REGISTRY' ENTERED AT 17:14:42 ON 24 APR 2006

SAV L8 CEP619L8/L

FILE HOME

FILE REGISTRY

Property values tagged with K are from the ZIC/VINITI data file provided by InfoChem.

*\* This item does not beat your priority date, but I included it because it is the only cit. I located. If you would like for me to go back the structure, please call me at ext. 22524. M. Ruhl*

STRUCTURE FILE UPDATES: 23 APR 2006 HIGHEST RN 881543-45-9

DICTIONARY FILE UPDATES: 23 APR 2006 HIGHEST RN 881543-45-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*

\* The CA roles and document type information have been removed from \*

Searched by Mary Jane Ruhl Ext. 22524

Page 10

\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

#### FILE HCAPLUS

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FILE COVERS 1907 - 24 Apr 2006 VOL 144 ISS 18

FILE LAST UPDATED: 23 Apr 2006 (20060423/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

#### FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 20 Apr 2006 (20060420/PD)

FILE LAST UPDATED: 20 Apr 2006 (20060420/ED)

HIGHEST GRANTED PATENT NUMBER: US7032245

HIGHEST APPLICATION PUBLICATION NUMBER: US2006085880

CA INDEXING IS CURRENT THROUGH 20 Apr 2006 (20060420/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 20 Apr 2006 (20060420/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

=> d ibib abs hitstr l11 1-5

L11 ANSWER (1) OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005592027 HCAPLUS  
 DOCUMENT NUMBER: 14393642  
 TITLE: Mixtures of isobarically labeled analytes and fragments ions derived therefrom  
 INVENTOR(S): Pappin, Darryl J. C.; Purkayastha, Subhasish; Coull, James M.  
 PATENT ASSIGNEE(S): Applera Corp., USA  
 SOURCE: U.S. Pat. Appl. Publ., 36 pp., Cont.-in-part of U.S. Ser. No. 751,353.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 6  
 PATENT INFORMATION:

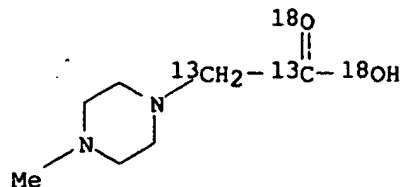
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25/02/06  
mcc*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005147985	A1	20050707	US 2004-822639	20040412
US 2005147982	A1	20050707	US 2004-751353	20040105
US 2005148087	A1	20050707	US 2004-852730	20040524
WO 2005068446	A1	20050728	WO 2005-US223	20050105

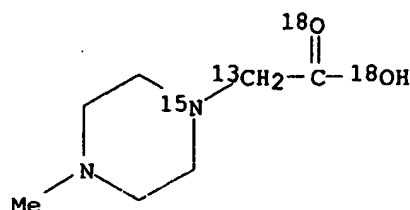
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 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:  
 US 2004-751353 A2 20040105  
 US 2004-751354 A 20040105  
 US 2004-751387 A 20040105  
 US 2004-751388 A 20040105  
 US 2004-822639 A2 20040412  
 US 2004-852730 A 20040524

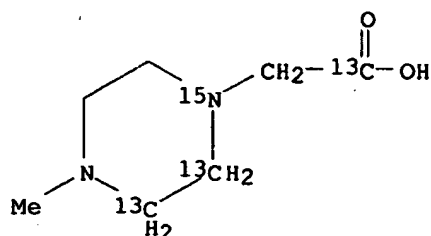
OTHER SOURCE(S): MARPAT 143:93642  
 AB This invention pertains to mixts. of isobarically labeled analytes and fragment ions thereof.  
 IT 856290-53-4P 856290-55-6P 857027-11-3P 857027-12-4P  
 RL: FMU (Formation, unclassified); SPN (Synthetic preparation); FORM (Formation, nonpreparative); PREP (Preparation)  
 (mixts. of isobarically labeled analytes and fragments ions derived therefrom)  
 RN 856290-53-4 HCAPLUS  
 CN 1-Piperazineacetic-carboxy,  $\alpha$ -13C2-18O2 acid, 4-methyl- (9CI) (CA INDEX NAME)



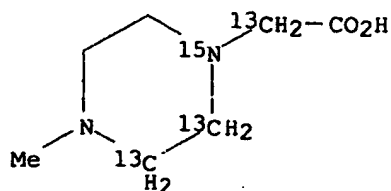
RN 856290-55-6 HCAPLUS  
 CN 1-Piperazineacetic- $\alpha$ - $^{13}\text{C}$ -1- $^{15}\text{N}$ - $^{18}\text{O}_2$  acid, 4-methyl- (9CI) (CA INDEX NAME)



RN 857027-11-3 HCAPLUS  
 CN 1-Piperazine-2,3- $^{13}\text{C}_2$ -1- $^{15}\text{N}$ -acetic-carboxy- $^{13}\text{C}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



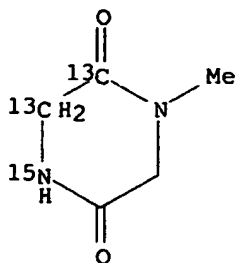
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 CN 1-Piperazine-2,3- $^{13}\text{C}_2$ -1- $^{15}\text{N}$ -acetic- $\alpha$ - $^{13}\text{C}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



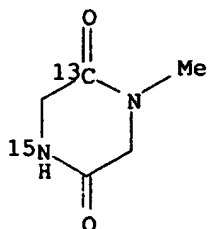
IT 856188-23-3P 856188-27-7P 856188-32-4P  
 856188-38-0P 856188-44-8P 856188-50-6P  
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 (mixts. of isobarically labeled analytes and fragments ions derived)

therefrom)

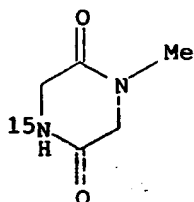
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RN 856188-27-7 HCAPLUS

CN 2,5-Piperazinedione-5-<sup>13</sup>C-1-<sup>15</sup>N, 4-methyl- (9CI) (CA INDEX NAME)

RN 856188-32-4 HCAPLUS

CN 2,5-Piperazinedione-1-<sup>15</sup>N, 4-methyl- (9CI) (CA INDEX NAME)

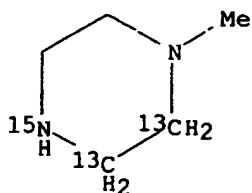
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CN Piperazine-2,3-<sup>13</sup>C2-1-<sup>15</sup>N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

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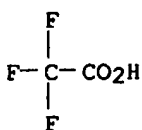
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CM 2

CRN 76-05-1

CMF C2 H F3 O2



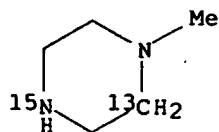
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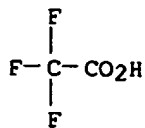
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CRN 76-05-1

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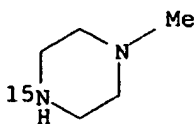


RN 856188-50-6 HCAPLUS

CN Piperazine-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

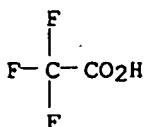
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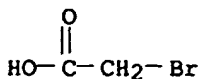
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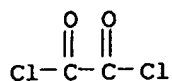
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Ethanedioyl dichloride 139-02-6 771-61-9,  
Pentafluorophenol 920-66-1 4530-20-5, Boc-Glycine  
5672-89-9 6066-82-6 7087-68-5,  
Diisopropylethylamine 13200-60-7, Sarcosine ethyl ester  
18156-74-6 52928-63-9 54699-92-2  
56522-24-8 61898-49-5 85539-84-0  
99542-20-8 856187-92-3 856187-95-6  
856188-13-1 857027-03-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(mixts. of isobarically labeled analytes and fragments ions derived  
therefrom)  
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CN Ethanol, 2,2,2-trifluoro- (6CI, 8CI, 9CI) (CA INDEX NAME)

F3C-CH2-OH

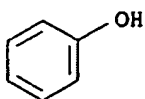
RN 79-08-3 HCAPLUS  
CN Acetic acid, bromo- (8CI, 9CI) (CA INDEX NAME)



RN 79-37-8 HCAPLUS  
CN Ethanedioyl dichloride (9CI) (CA INDEX NAME)

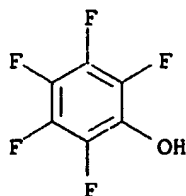


RN 139-02-6 HCAPLUS  
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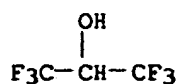


● Na

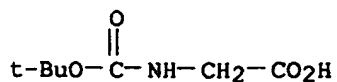
RN 771-61-9 HCAPLUS  
CN Phenol, pentafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



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CN 2-Propanol, 1,1,1,3,3,3-hexafluoro- (7CI, 8CI, 9CI) (CA INDEX NAME)

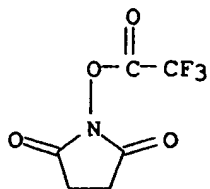


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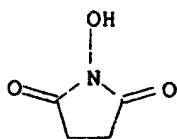


RN 5672-89-9 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-[(trifluoroacetyl)oxy]- (9CI) (CA INDEX NAME)

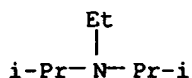




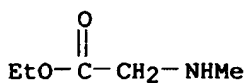
RN 6066-82-6 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



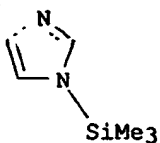
RN 7087-68-5 HCAPLUS  
 CN 2-Propanamine, N-ethyl-N-(1-methylethyl)- (9CI) (CA INDEX NAME)



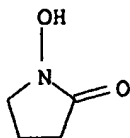
RN 13200-60-7 HCAPLUS  
 CN Glycine, N-methyl-, ethyl ester (9CI) (CA INDEX NAME)



RN 18156-74-6 HCAPLUS  
 CN 1H-Imidazole, 1-(trimethylsilyl)- (9CI) (CA INDEX NAME)

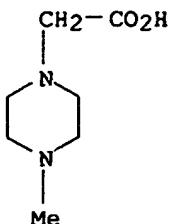


RN 52928-63-9 HCAPLUS  
 CN 2-Pyrrolidinone, 1-hydroxy- (6CI, 9CI) (CA INDEX NAME)



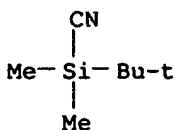
RN 54699-92-2 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl- (9CI) (CA INDEX NAME)



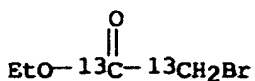
RN 56522-24-8 HCAPLUS

CN Silanecarbonitrile, (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



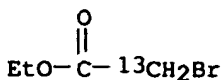
RN 61898-49-5 HCAPLUS

CN Acetic-13C2 acid, bromo-, ethyl ester (9CI) (CA INDEX NAME)



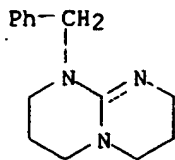
RN 85539-84-0 HCAPLUS

CN Acetic-2-13C acid, 2-bromo-, ethyl ester (9CI) (CA INDEX NAME)



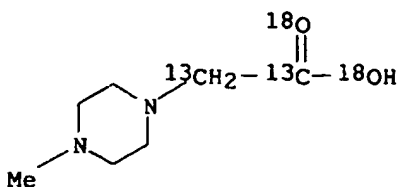
RN 99542-20-8 HCAPLUS

CN 2H-Pyrimido[1,2-a]pyrimidine, 1,3,4,6,7,8-hexahydro-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 856187-92-3 HCAPLUS

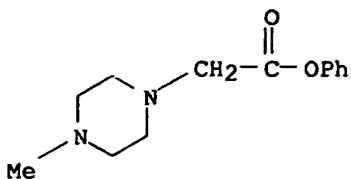
CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}$ 2-1802 acid, 4-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

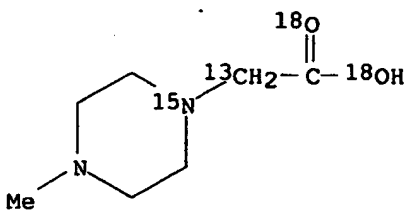
RN 856187-95-6 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, phenyl ester (9CI) (CA INDEX NAME)



RN 856188-13-1 HCAPLUS

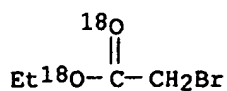
CN 1-Piperazineacetic- $\alpha$ - $^{13}\text{C}$ -1- $^{15}\text{N}$ -1802 acid, 4-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



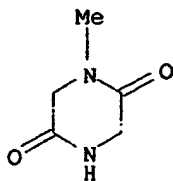
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RN 857027-03-3 HCAPLUS

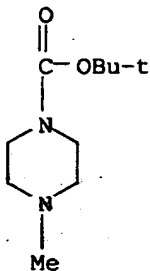
CN Acetic-18O2 acid, bromo-, ethyl ester (9CI) (CA INDEX NAME)



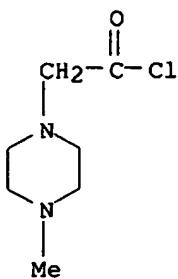
IT 5625-52-5P 53788-49-1P 80841-13-0P  
 145590-97-2P 856187-64-9P 856187-68-3P  
 856187-72-9P 856187-80-9P 856187-83-2P  
 856188-06-2P 857027-04-4P 857027-05-5P  
 857027-07-7P 857027-09-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (mixts. of isobarically labeled analytes and fragments ions derived  
 therefrom)  
 RN 5625-52-5 HCAPLUS  
 CN 2,5-Piperazinedione, 1-methyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 53788-49-1 HCAPLUS  
 CN 1-Piperazinecarboxylic acid, 4-methyl-, 1,1-dimethylethyl ester (9CI) (CA  
 INDEX NAME)

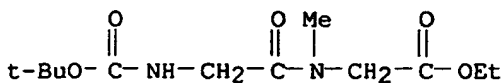


RN 80841-13-0 HCAPLUS  
 CN 1-Piperazineacetyl chloride, 4-methyl- (9CI) (CA INDEX NAME)



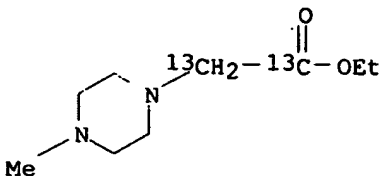
RN 145590-97-2 HCAPLUS

CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]glycyl-N-methyl-, ethyl ester (9CI) (CA INDEX NAME)



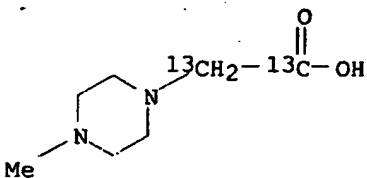
RN 856187-64-9 HCAPLUS

CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}_2$  acid, 4-methyl-, ethyl ester (9CI) (CA INDEX NAME)



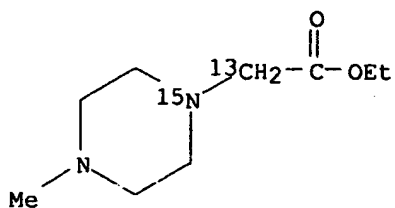
RN 856187-68-3 HCAPLUS

CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}_2$  acid, 4-methyl- (9CI) (CA INDEX NAME)

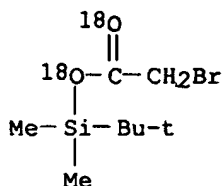


RN 856187-72-9 HCAPLUS

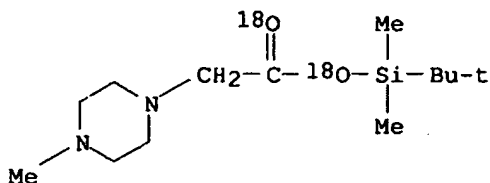
CN 1-Piperazine-1- $^{15}\text{N}$ -acetic- $\alpha$ - $^{13}\text{C}$  acid, 4-methyl-, ethyl ester (9CI) (CA INDEX NAME)



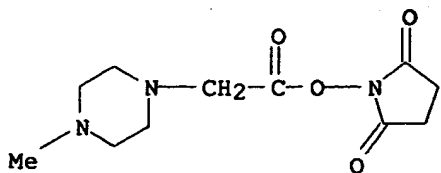
RN 856187-80-9 HCAPLUS

CN Acetic-1802 acid, bromo-, (1,1-dimethylethyl)dimethylsilyl ester (9CI)  
(CA INDEX NAME)

RN 856187-83-2 HCAPLUS

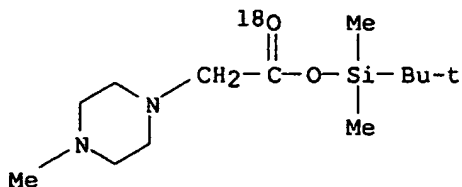
CN 1-Piperazineacetic-1802 acid, 4-methyl-, (1,1-dimethylethyl)dimethylsilyl  
ester (9CI) (CA INDEX NAME)

RN 856188-06-2 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[(4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA  
INDEX NAME)

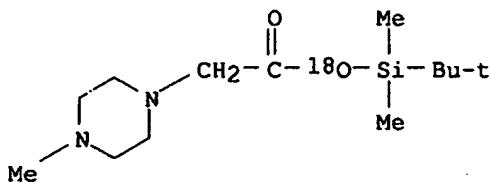
RN 857027-04-4 HCAPLUS

CN 1-Piperazineacetic-180 acid, 4-methyl-, 160-[(1,1-  
dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)



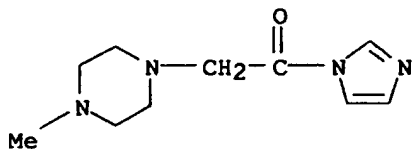
RN 857027-05-5 HCAPLUS

CN 1-Piperazineacetic-18O acid, 4-methyl-, 18O-[(1,1-dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)



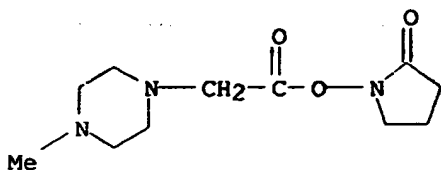
RN 857027-07-7 HCAPLUS

CN 1H-Imidazole, 1-[(4-methyl-1-piperazinyl)acetyl]- (9CI) (CA INDEX NAME)



RN 857027-09-9 HCAPLUS

CN 2-Pyrrolidinone, 1-[[[(4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA INDEX NAME)



IT 109-01-3P 34352-59-5P 856187-57-0P

856187-76-3P 856187-87-6P 856187-98-9P

856188-16-4P 856188-20-0P 856188-62-0P

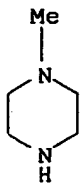
857027-06-6DP, salts 857027-08-8P 857027-10-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

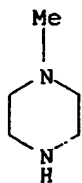
(mixts. of isobarically labeled analytes and fragments ions derived therefrom)

RN 109-01-3 HCAPLUS

CN Piperazine, 1-methyl- (8CI, 9CI) (CA INDEX NAME)



RN 34352-59-5 HCAPLUS  
CN Piperazine, 1-methyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

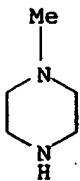


●2 HCl

RN 856187-57-0 HCAPLUS  
CN Piperazine, 1-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

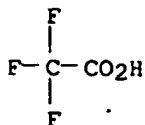
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CRN 109-01-3  
CMF C5 H12 N2



CM 2

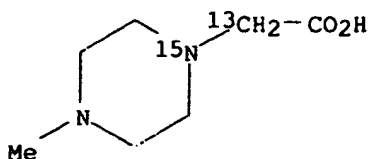
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CMF C2 H F3 O2



RN 856187-76-3 HCAPLUS

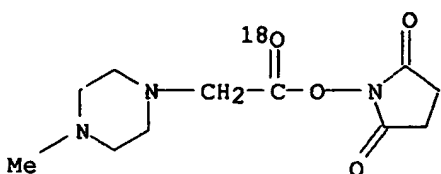


CN 1-Piperazine-1-15N-acetic- $\alpha$ -13C acid, 4-methyl- (9CI) (CA INDEX NAME)



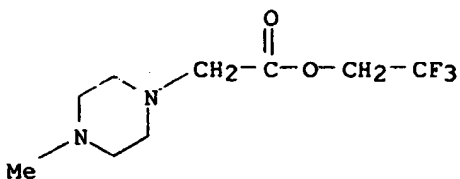
RN 856187-87-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[(4-methyl-1-piperazinyl)acetyl-18O]oxy]- (9CI) (CA INDEX NAME)



RN 856187-98-9 HCAPLUS

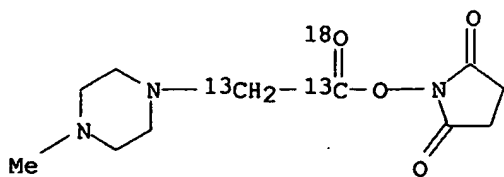
CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoroethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

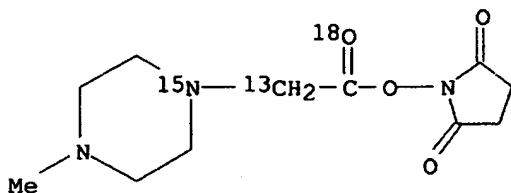
RN 856188-16-4 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[(4-methyl-1-piperazinyl)acetyl-13C2-18O]oxy]-, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

RN 856188-20-0 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-[[[(4-methyl-1-piperazinyl-1-15N)acetyl-2-13C-18O]oxy]-, dihydrochloride (9CI) (CA INDEX NAME)

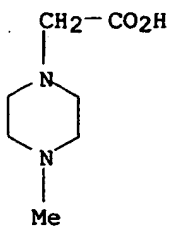


● 2 HCl

RN 856188-62-0 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

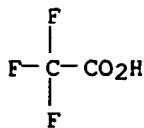
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CRN 54699-92-2  
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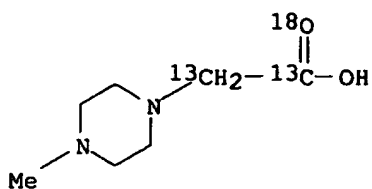
CM 2

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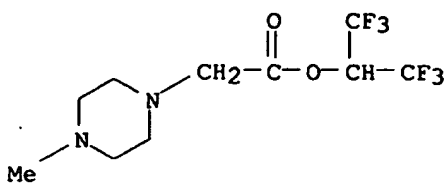
RN 857027-06-6 HCAPLUS

CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}$ - $^{18}\text{O}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



RN 857027-08-8 HCAPLUS

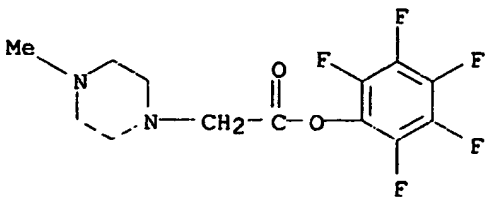
CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 857027-10-2 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, pentafluorophenyl ester (9CI) (CA INDEX NAME)



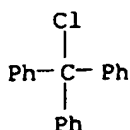
IT 76-83-5, Trityl-Chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

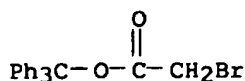
(resin; mixts. of isobarically labeled analytes and fragments ions derived therefrom)

RN 76-83-5 HCAPLUS

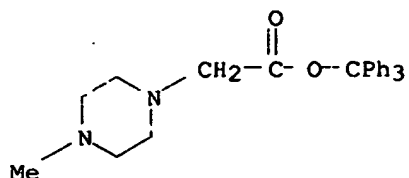
CN Benzene, 1,1',1''-(chloromethylidene)tris- (9CI) (CA INDEX NAME)



IT 857027-01-1P 857027-02-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (resin; mixts. of isobarically labeled analytes and fragments ions  
 derived therefrom)  
 RN 857027-01-1 HCAPLUS  
 CN Acetic acid, bromo-, triphenylmethyl ester (9CI) (CA INDEX NAME)



RN 857027-02-2 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, triphenylmethyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005/588349 HCAPLUS  
 DOCUMENT NUMBER: 143:112150  
 TITLE: Isobarically labeled analytes and fragment ions  
 derived therefrom  
 INVENTOR(S): Pappin, Darryl J. C.; Purkayastha, Subhasish  
 ; Coull, James M.  
 PATENT ASSIGNEE(S): Applera Corporation, USA  
 SOURCE: U.S. Pat. Appl. Publ., 88 pp., Cont.-in-part of U.S.  
 Ser. No. 822,639.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 6  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005148087	A1	20050707	US 2004-852730	20040524
US 2005147982	A1	20050707	US 2004-751353	20040105
US 2005147985	A1	20050707	US 2004-822639	20040412

WO 2005068446 A1 20050728 WO 2005-US223 20050105  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
 MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2004-751353 A2 20040105  
 US 2004-822639 A2 20040412  
 US 2004-751354 A 20040105  
 US 2004-751387 A 20040105  
 US 2004-751388 A 20040105  
 US 2004-852730 A 20040524

OTHER SOURCE(S): MARPAT 143:112150

AB This invention pertains to isobarically labeled analytes and fragment ions thereof.

IT 103213-49-6

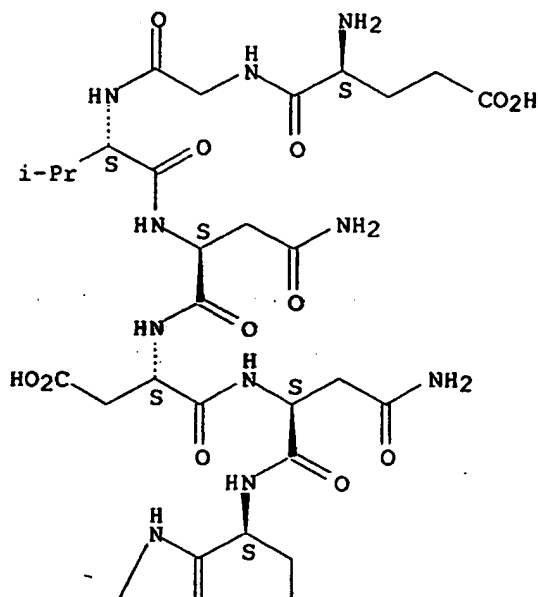
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 (isobarically labeled analytes and fragment ions derived therefrom)

RN 103213-49-6 HCAPLUS

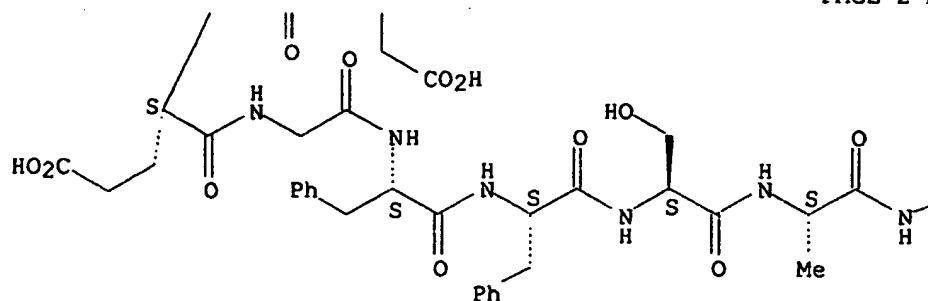
CN Fibrinopeptide B (human), 1-L-glutamic acid- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

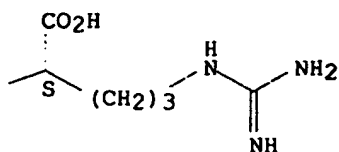
PAGE 1-A



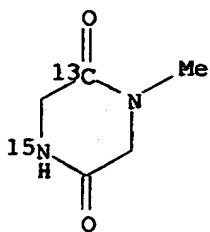
PAGE 2-A



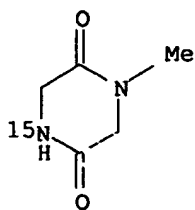
PAGE 2-B



IT 856188-27-7P 856188-32-4P 856188-38-0P  
 856188-44-8P 856188-50-6P 857290-86-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (isobarically labeled analytes and fragment ions derived therefrom)  
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 CN 2,5-Piperazinedione-5-13C-1-15N, 4-methyl- (9CI) (CA INDEX NAME)



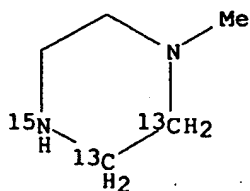
RN 856188-32-4 HCAPLUS  
 CN 2,5-Piperazinedione-1-15N, 4-methyl- (9CI) (CA INDEX NAME)



RN 856188-38-0 HCAPLUS  
 CN Piperazine-2,3-13C2-1-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

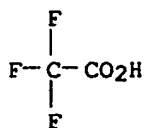
CM 1

CRN 856188-37-9  
 CMF C5 H12 N2



CM 2

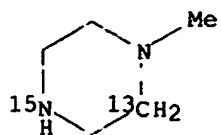
CRN 76-05-1  
 CMF C2 H F3 O2



RN 856188-44-8 HCAPLUS  
 CN Piperazine-3-13C-1-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

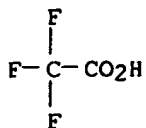
CRN 856188-43-7  
 CMF C5 H12 N2



CM 2

CRN 76-05-1

CMF C2 H F3 O2



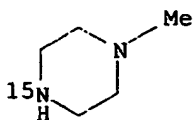
RN 856188-50-6 HCAPLUS

CN Piperazine-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 856188-49-3

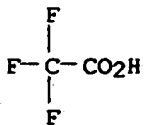
CMF C5 H12 N2



CM 2

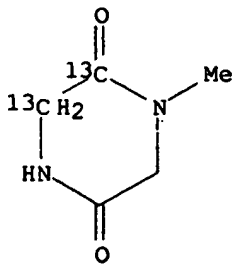
CRN 76-05-1

CMF C2 H F3 O2



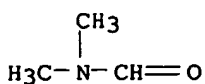
RN 857290-86-9 HCAPLUS

CN 2,5-Piperazinedione-2,3-13C2, 1-methyl- (9CI) (CA INDEX NAME)

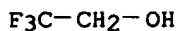




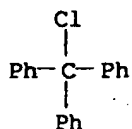
IT 68-12-2, Dimethylformamide, reactions 75-89-8  
 76-83-5D, polystyrene/bromoacetic piperazine-supported  
 79-08-3, Bromoacetic acid 79-37-8, Ethanedioyl  
 dichloride 107-59-5, tert-Butyl chloroacetate 110-85-0  
 , Piperazine, reactions 110-89-4, Piperidine, reactions  
 110-91-8, Morpholine, reactions 111-95-5  
 139-02-6 771-61-9 920-66-1 6066-82-6  
 6456-74-2 7087-68-5 7719-09-7, Thionyl  
 chloride 9003-53-6D, Polystyrene, trityl chloride/bromoacetic  
 piperazine derivs. 13200-60-7, Sarcosine ethyl ester  
 52928-63-9 54699-92-2 56522-24-8  
 57858-24-9 61898-49-5 64891-77-6  
 85539-84-0 99542-20-8D, solid support bound  
 741683-87-4, 4-Morpholineacetic-carboxy-<sup>13</sup>C acid  
 741683-88-5, 4-Morpholineacetic- $\alpha$ -<sup>13</sup>C acid  
 856187-95-6 857291-01-1 857291-15-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (isobarically labeled analytes and fragment ions derived therefrom)  
 RN 68-12-2 HCAPLUS  
 CN Formamide, N,N-dimethyl- (8CI, 9CI) (CA INDEX NAME)



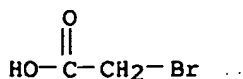
RN 75-89-8 HCAPLUS  
 CN Ethanol, 2,2,2-trifluoro- (6CI, 8CI, 9CI) (CA INDEX NAME)



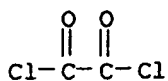
RN 76-83-5 HCAPLUS  
 CN Benzene, 1,1',1''-(chloromethylidyne)tris- (9CI) (CA INDEX NAME)



RN 79-08-3 HCAPLUS  
 CN Acetic acid, bromo- (8CI, 9CI) (CA INDEX NAME)

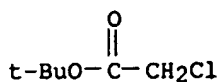


RN 79-37-8 HCAPLUS  
 CN Ethanedioyl dichloride (9CI) (CA INDEX NAME)



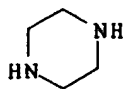
RN 107-59-5 HCAPLUS

CN Acetic acid, chloro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



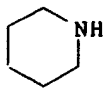
RN 110-85-0 HCAPLUS

CN Piperazine (8CI, 9CI) (CA INDEX NAME)



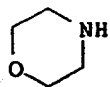
RN 110-89-4 HCAPLUS

CN Piperidine (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 110-91-8 HCAPLUS

CN Morpholine (8CI, 9CI) (CA INDEX NAME)



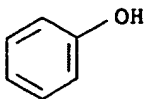
RN 111-95-5 HCAPLUS

CN Ethanamine, 2-methoxy-N-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



RN 139-02-6 HCAPLUS

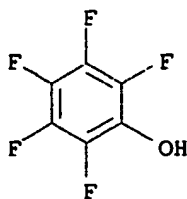
CN Phenol, sodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

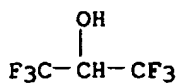
RN 771-61-9 HCAPLUS

CN Phenol, pentafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



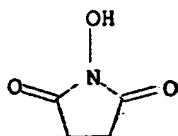
RN 920-66-1 HCAPLUS

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro- (7CI, 8CI, 9CI) (CA INDEX NAME)



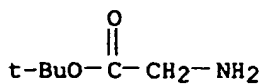
RN 6066-82-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



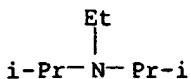
RN 6456-74-2 HCAPLUS

CN Glycine, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

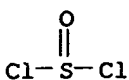


RN 7087-68-5 HCAPLUS

CN 2-Propanamine, N-ethyl-N-(1-methylethyl)- (9CI) (CA INDEX NAME)



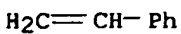
RN 7719-09-7 HCAPLUS  
CN Thionyl chloride (8CI, 9CI) (CA INDEX NAME)



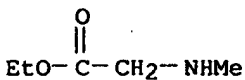
RN 9003-53-6 HCAPLUS  
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

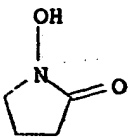
CRN 100-42-5  
CMF C8 H8



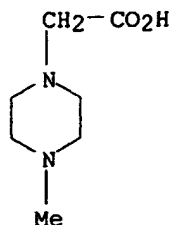
RN 13200-60-7 HCAPLUS  
CN Glycine, N-methyl-, ethyl ester (9CI) (CA INDEX NAME)



RN 52928-63-9 HCAPLUS  
CN 2-Pyrrolidinone, 1-hydroxy- (6CI, 9CI) (CA INDEX NAME)

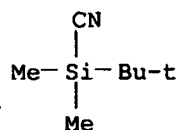


RN 54699-92-2 HCAPLUS  
CN 1-Piperazineacetic acid, 4-methyl- (9CI) (CA INDEX NAME)



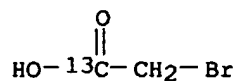
RN 56522-24-8 HCAPLUS

CN Silanecarbonitrile, (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



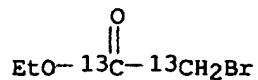
RN 57858-24-9 HCAPLUS

CN Acetic-1-13C acid, 2-bromo- (9CI) (CA INDEX NAME)



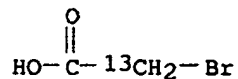
RN 61898-49-5 HCAPLUS

CN Acetic-13C2 acid, bromo-, ethyl ester (9CI) (CA INDEX NAME)



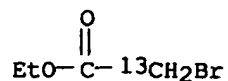
RN 64891-77-6 HCAPLUS

CN Acetic-2-13C acid, 2-bromo- (9CI) (CA INDEX NAME)



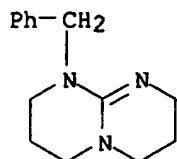
RN 85539-84-0 HCAPLUS

CN Acetic-2-13C acid, 2-bromo-, ethyl ester (9CI) (CA INDEX NAME)



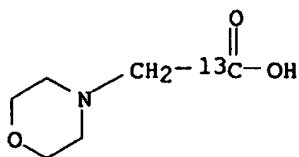
RN 99542-20-8 HCAPLUS

CN 2H-Pyrimido[1,2-a]pyrimidine, 1,3,4,6,7,8-hexahydro-1-(phenylmethyl)-  
(9CI) (CA INDEX NAME)



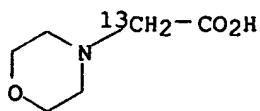
RN 741683-87-4 HCAPLUS

CN 4-Morpholineacetic-carboxy-<sup>13</sup>C acid (9CI) (CA INDEX NAME)



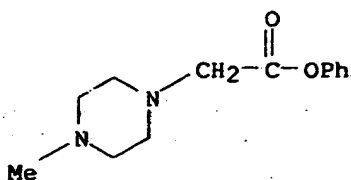
RN 741683-88-5 HCAPLUS

CN 4-Morpholineacetic- $\alpha$ -<sup>13</sup>C acid (9CI) (CA INDEX NAME)



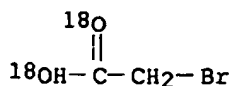
RN 856187-95-6 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, phenyl ester (9CI) (CA INDEX NAME)



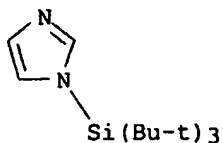
RN 857291-01-1 HCAPLUS

CN Acetic-<sup>18</sup>O acid, bromo- (9CI) (CA INDEX NAME)

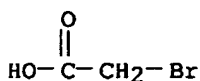


RN 857291-15-7 HCAPLUS

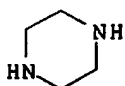
CN 1H-Imidazole, 1-[tris(1,1-dimethylethyl)silyl]- (9CI) (CA INDEX NAME)



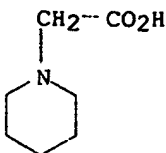
IT 79-08-3DP, Bromoacetic acid, polystyrene trityl chloride  
 piperazine derivs. 110-85-ODP, Piperazine, trityl  
 chloride/bromoacetic polystyrene derivs. 3235-67-4P,  
 1-Piperidineacetic acid 3235-69-6P, 4-Morpholineacetic acid  
 5625-52-5P 37478-58-3P, 1-Piperazineacetic acid  
 53788-49-1P 80841-13-0P 174311-10-5P  
 215101-76-1P 741683-82-9P, 1-Piperidineacetic-carboxy-  
 13C acid 741683-83-0P, 1-Piperidineacetic- $\alpha$ -13C acid  
 741683-84-1P, 1-Piperazineacetic-carboxy-13C acid  
 741683-85-2P, 1-Piperazineacetic- $\alpha$ -13C acid  
 856187-64-9P 856187-72-9P 856187-80-9P  
 856187-83-2P 857027-04-4P 857027-05-5P  
 857027-07-7P 857027-09-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (isobarically labeled analytes and fragment ions derived therefrom)  
 RN 79-08-3 HCAPLUS  
 CN Acetic acid, bromo- (8CI, 9CI) (CA INDEX NAME)



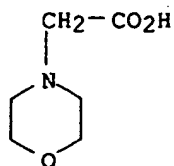
RN 110-85-0 HCAPLUS  
 CN Piperazine (8CI, 9CI) (CA INDEX NAME)



RN 3235-67-4 HCAPLUS  
 CN 1-Piperidineacetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

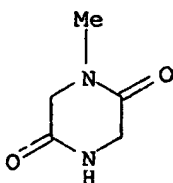


RN 3235-69-6 HCAPLUS  
 CN 4-Morpholineacetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



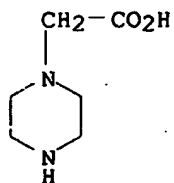
RN 5625-52-5 HCAPLUS

CN 2,5-Piperazinedione, 1-methyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



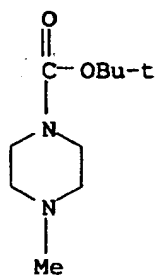
RN 37478-58-3 HCAPLUS

CN 1-Piperazineacetic acid (9CI) (CA INDEX NAME)



RN 53788-49-1 HCAPLUS

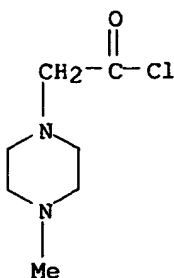
CN 1-Piperazinecarboxylic acid, 4-methyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 80841-13-0 HCAPLUS

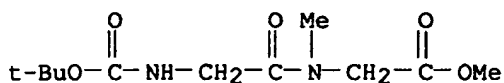
CN 1-Piperazineacetyl chloride, 4-methyl- (9CI) (CA INDEX NAME)





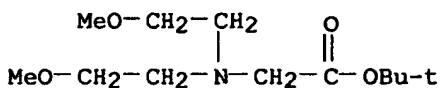
RN 174311-10-5 HCAPLUS

CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]glycyl-N-methyl-, methyl ester (9CI) (CA INDEX NAME)



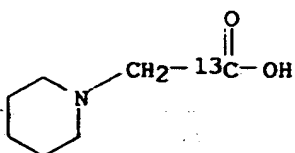
RN 215101-76-1 HCAPLUS

CN Glycine, N,N-bis(2-methoxyethyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



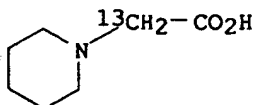
RN 741683-82-9 HCAPLUS

CN 1-Piperidineacetic-carboxy-13C acid (9CI) (CA INDEX NAME)



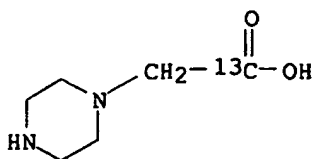
RN 741683-83-0 HCAPLUS

CN 1-Piperidineacetic-α-13C acid (9CI) (CA INDEX NAME)

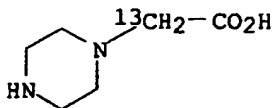


RN 741683-84-1 HCAPLUS

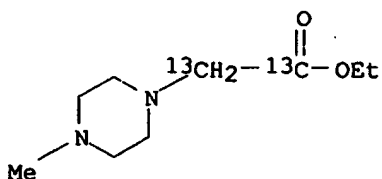
CN 1-Piperazineacetic-carboxy-13C acid (9CI) (CA INDEX NAME)



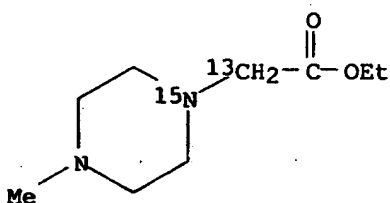
RN 741683-85-2 HCAPLUS  
CN 1-Piperazineacetic-α-13C acid (9CI) (CA INDEX NAME)



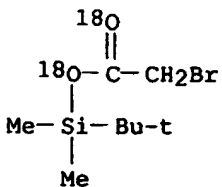
RN 856187-64-9 HCAPLUS  
CN 1-Piperazineacetic-carboxy, α-13C2 acid, 4-methyl-, ethyl ester (9CI)  
(CA INDEX NAME)



RN 856187-72-9 HCAPLUS  
CN 1-Piperazine-1-15N-acetic-α-13C acid, 4-methyl-, ethyl ester (9CI)  
(CA INDEX NAME)

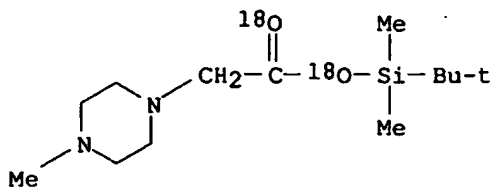


RN 856187-80-9 HCAPLUS  
CN Acetic-18O2 acid, bromo-, (1,1-dimethylethyl)dimethylsilyl ester (9CI)  
(CA INDEX NAME)



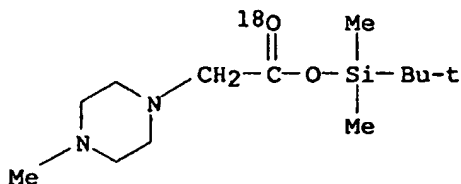
RN 856187-83-2 HCAPLUS

CN 1-Piperazineacetic-1802 acid, 4-methyl-, (1,1-dimethylethyl)dimethylsilyl ester (9CI) (CA INDEX NAME)



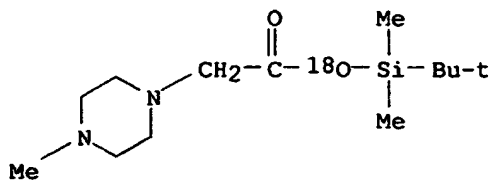
RN 857027-04-4 HCAPLUS

CN 1-Piperazineacetic-180 acid, 4-methyl-, 160-[(1,1-dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)



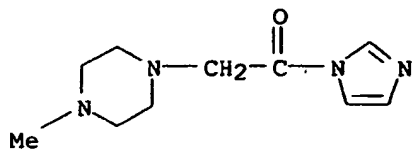
RN 857027-05-5 HCAPLUS

CN 1-Piperazineacetic-180 acid, 4-methyl-, 180-[(1,1-dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)



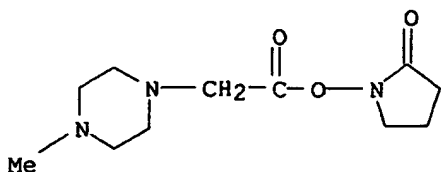
RN 857027-07-7 HCAPLUS

CN 1H-Imidazole, 1-[(4-methyl-1-piperazinyl)acetyl]- (9CI) (CA INDEX NAME)

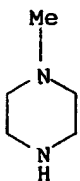


RN 857027-09-9 HCAPLUS

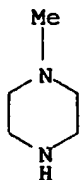
CN 2-Pyrrolidinone, 1-[(4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA INDEX NAME)



IT 109-01-3P 34352-59-5P 741683-79-4P  
 741683-81-8P 856187-57-0P 856187-68-3P  
 856187-76-3P 856187-87-6P 856187-98-9P  
 856188-06-2P 856188-62-0P 856290-53-4P  
 856290-55-6P 857027-06-6P 857027-08-8P  
 857027-10-2P 857291-36-2P 857291-38-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (isobarically labeled analytes and fragment ions derived therefrom)  
 RN 109-01-3 HCAPLUS  
 CN Piperazine, 1-methyl- (8CI, 9CI) (CA INDEX NAME)

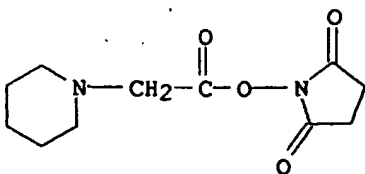


RN 34352-59-5 HCAPLUS  
 CN Piperazine, 1-methyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

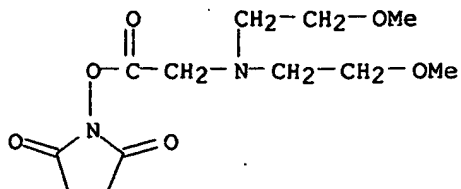


●2 HCl

RN 741683-79-4 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-[(1-piperidinylacetyl)oxy]- (9CI) (CA INDEX NAME)



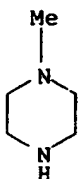
RN 741683-81-8 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-[[[bis(2-methoxyethyl)amino]acetyl]oxy]- (9CI)  
 (CA INDEX NAME)



RN 856187-57-0 HCAPLUS  
 CN Piperazine, 1-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

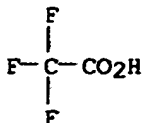
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CRN 109-01-3  
 CMF C5 H12 N2

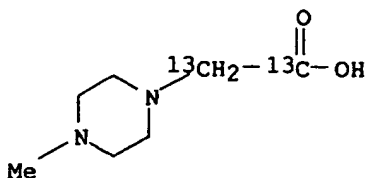


CM 2

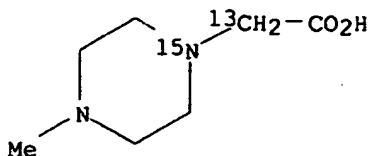
CRN 76-05-1  
 CMF C2 H F3 O2



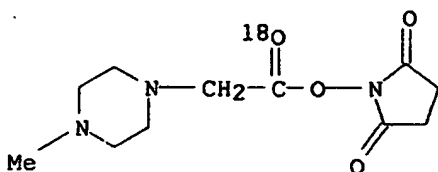
RN 856187-68-3 HCAPLUS  
 CN 1-Piperazineacetic-carboxy, alpha-13C2 acid, 4-methyl- (9CI) (CA INDEX NAME)



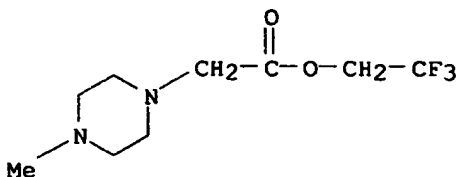
RN 856187-76-3 HCAPLUS  
 CN 1-Piperazine-1-15N-acetic- $\alpha$ -13C acid, 4-methyl- (9CI) (CA INDEX NAME)



RN 856187-87-6 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-[[[4-methyl-1-piperazinyl)acetyl-18O]oxy]- (9CI) (CA INDEX NAME)

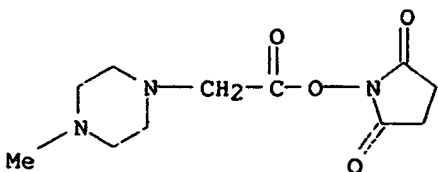


RN 856187-98-9 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoroethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

RN 856188-06-2 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-[[[4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA INDEX NAME)

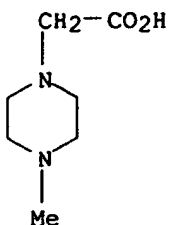


RN 856188-62-0 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

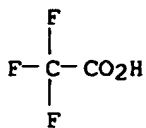
CM 1

CRN 54699-92-2  
CMF C7 H14 N2 O2



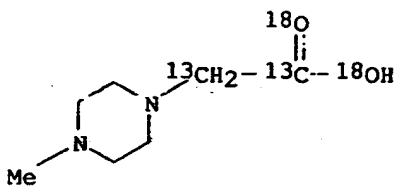
CM 2

CRN 76-05-1  
CMF C2 H F3 O2



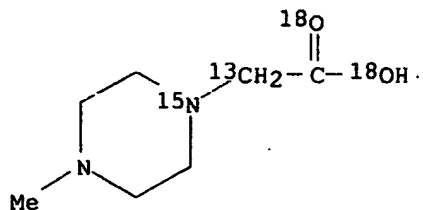
RN 856290-53-4 HCAPLUS

CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}$ 2- $^{18}\text{O}$ 2 acid, 4-methyl- (9CI) (CA INDEX NAME)

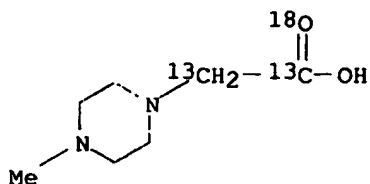


RN 856290-55-6 HCAPLUS

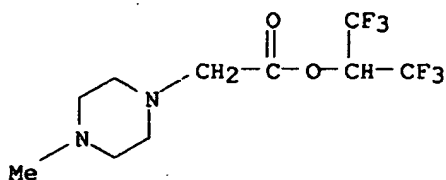
CN 1-Piperazineacetic- $\alpha$ - $^{13}\text{C}$ -1- $^{15}\text{N}$ - $^{18}\text{O}$ 2 acid, 4-methyl- (9CI) (CA INDEX NAME)



RN 857027-06-6 HCAPLUS  
 CN 1-Piperazineacetic-carboxy,  $\alpha$ -13C2-18O acid, 4-methyl- (9CI) (CA INDEX NAME)

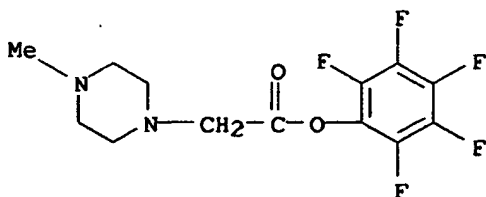


RN 857027-08-8 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

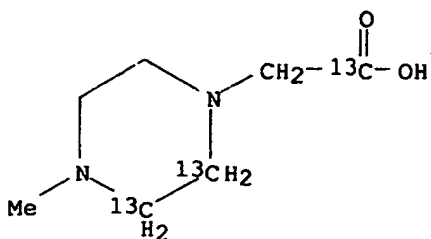
RN 857027-10-2 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, pentafluorophenyl ester (9CI) (CA INDEX NAME)



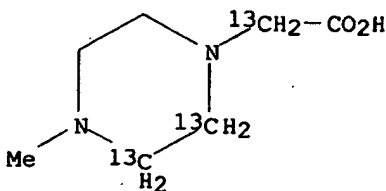
RN 857291-36-2 HCAPLUS  
 CN 1-Piperazine-2,3-13C2-acetic-carboxy-13C acid, 4-methyl- (9CI) (CA INDEX NAME)



NAME)



RN 857291-38-4 HCAPLUS

CN 1-Piperazine-2,3-13C2-acetic- $\alpha$ -13C acid, 4-methyl- (9CI) (CA INDEX NAME)

L11 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: (2005)588336 HCAPLUS

DOCUMENT NUMBER: 143.93635

TITLE: Mixtures of isobarically labeled analytes and fragments ions derived therefrom

INVENTOR(S): Pappin, Darryl J. C.; Purkayastha, Subhasish ; Coull, James M.

PATENT ASSIGNEE(S): Applera Corporation, USA

SOURCE: U.S. Pat. Appl. Publ., 29 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 6

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005147982	A1	20050707	US 2004-751353	20040105
US 2005147985	A1	20050707	US 2004-822639	20040412
US 2005148087	A1	20050707	US 2004-852730	20040524
WO 2005068446	A1	20050728	WO 2005-US223	20050105
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,				

RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
MR, NE, SN, TD, TG

## PRIORITY APPLN. INFO.:

US 2004-751353	A2 20040105
US 2004-751354	A 20040105
US 2004-751387	A 20040105
US 2004-751388	A 20040105
US 2004-822639	A2 20040412
US 2004-852730	A 20040524

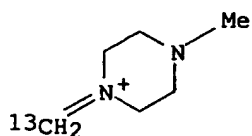
AB This invention pertains to mixts. of isobarically labeled analytes and fragment ions thereof.

IT 853995-47-8 853995-48-9 853995-49-0  
853995-50-3

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)  
(mixts. of isobarically labeled analytes and fragments ions derived therefrom)

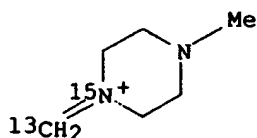
RN 853995-47-8 HCAPLUS

CN Piperazinium, 4-methyl-1-(methylene-13C)- (9CI) (CA INDEX NAME)



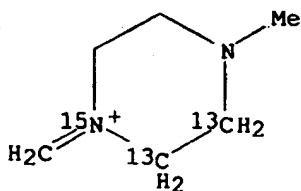
RN 853995-48-9 HCAPLUS

CN Piperazinium-1-15N, 4-methyl-1-(methylene-13C)- (9CI) (CA INDEX NAME)



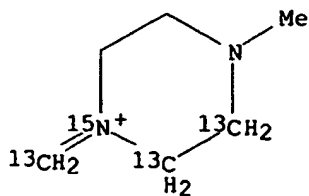
RN 853995-49-0 HCAPLUS

CN Piperazinium-2,3-13C2-1-15N, 4-methyl-1-methylene- (9CI) (CA INDEX NAME)

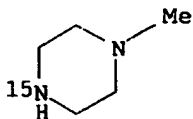


RN 853995-50-3 HCAPLUS

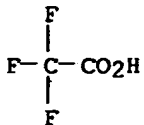
CN Piperazinium-2,3-13C2-1-15N, 4-methyl-1-(methylene-13C)- (9CI) (CA INDEX NAME)



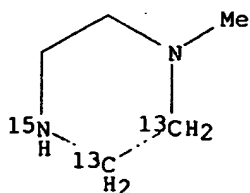
IT 856188-50-6P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (mixts. of isobarically labeled analytes and fragments ions derived therefrom)  
 RN 856188-50-6 HCAPLUS  
 CN Piperazine-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 856188-49-3  
 CMF C5 H12 N2



CM 2  
 CRN 76-05-1  
 CMF C2 H F3 O2



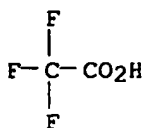
IT 856188-38-0P 856188-44-8P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (mixts. of isobarically labeled analytes and fragments ions derived therefrom)  
 RN 856188-38-0 HCAPLUS  
 CN Piperazine-2,3-13C2-1-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 856188-37-9  
 CMF C5 H12 N2



CM 2

CRN 76-05-1

CMF C2 H F3 O2



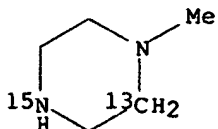
RN 856188-44-8 HCAPLUS

CN Piperazine-3-13C-1-15N, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 856188-43-7

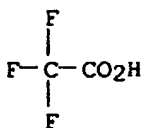
CMF C5 H12 N2



CM 2

CRN 76-05-1

CMF C2 H F3 O2



IT 75-89-8 79-08-3, Bromoacetic acid 79-37-8,  
 Ethanedioyl dichloride 139-02-6 771-61-9  
 920-66-1 4530-20-5, Boc-Glycine 6066-82-6  
 7087-68-5, Diisopropylethylamine 13200-60-7  
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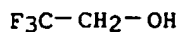
856187-95-6 857027-03-3 857027-07-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(mixts. of isobarically labeled analytes and fragments ions derived therefrom)

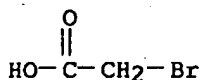
RN 75-89-8 HCAPLUS

CN Ethanol, 2,2,2-trifluoro- (6CI, 8CI, 9CI) (CA INDEX NAME)



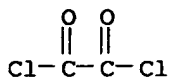
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CN Acetic acid, bromo- (8CI, 9CI) (CA INDEX NAME)



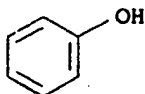
RN 79-37-8 HCAPLUS

CN Ethanedioyl dichloride (9CI) (CA INDEX NAME)



RN 139-02-6 HCAPLUS

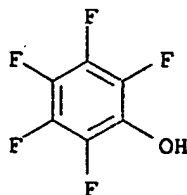
CN Phenol, sodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

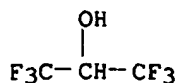
RN 771-61-9 HCAPLUS

CN Phenol, pentafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

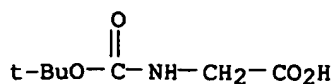


RN 920-66-1 HCAPLUS

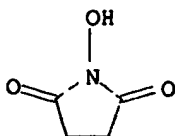
CN 2-Propanol, 1,1,1,3,3,3-hexafluoro- (7CI, 8CI, 9CI) (CA INDEX NAME)



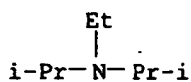
RN 4530-20-5 HCAPLUS  
CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]- (9CI) (CA INDEX NAME)



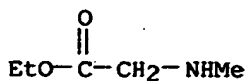
RN 6066-82-6 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



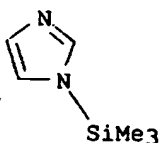
RN 7087-68-5 HCAPLUS  
CN 2-Propanamine, N-ethyl-N-(1-methylethyl)- (9CI) (CA INDEX NAME)



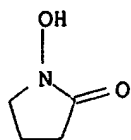
RN 13200-60-7 HCAPLUS  
CN Glycine, N-methyl-, ethyl ester (9CI) (CA INDEX NAME)



RN 18156-74-6 HCAPLUS  
CN 1H-Imidazole, 1-(trimethylsilyl)- (9CI) (CA INDEX NAME)

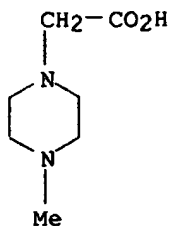


RN 52928-63-9 HCAPLUS  
CN 2-Pyrrolidinone, 1-hydroxy- (6CI, 9CI) (CA INDEX NAME)



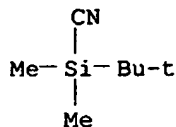
RN 54699-92-2 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl- (9CI) (CA INDEX NAME)



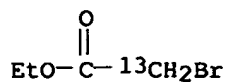
RN 56522-24-8 HCAPLUS

CN Silanecarbonitrile, (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



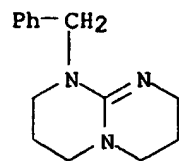
RN 85539-84-0 HCAPLUS

CN Acetic-2-13C acid, 2-bromo-, ethyl ester (9CI) (CA INDEX NAME)



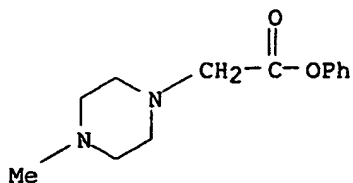
RN 99542-20-8 HCAPLUS

CN 2H-Pyrimido[1,2-a]pyrimidine, 1,3,4,6,7,8-hexahydro-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



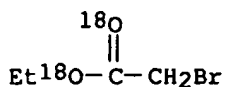
RN 856187-95-6 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, phenyl ester (9CI) (CA INDEX NAME)



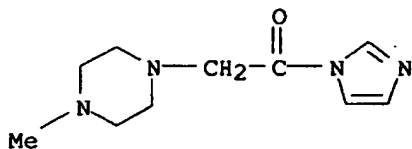
RN 857027-03-3 HCAPLUS

CN Acetic-1802 acid, bromo-, ethyl ester (9CI) (CA INDEX NAME)



RN 857027-07-7 HCAPLUS

CN 1H-Imidazole, 1-[(4-methyl-1-piperazinyl)acetyl]- (9CI) (CA INDEX NAME)

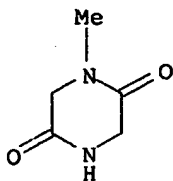


IT 5625-52-5P 53788-49-1P 61898-49-5P, Ethyl  
bromoacetate 80841-13-0P 145590-97-2P  
856187-64-9P 856187-68-3P 856187-72-9P  
856187-80-9P 856187-83-2P 856188-06-2P  
857027-02-2P 857027-04-4P 857027-05-5P  
857027-09-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(mixts. of isobarically labeled analytes and fragments ions derived  
therefrom)

RN 5625-52-5 HCAPLUS

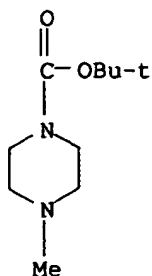
CN 2,5-Piperazinedione, 1-methyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 53788-49-1 HCAPLUS

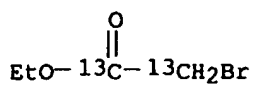
CN 1-Piperazinecarboxylic acid, 4-methyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)





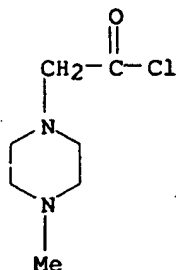
RN 61898-49-5 HCAPLUS

CN Acetic-13C2 acid, bromo-, ethyl ester (9CI) (CA INDEX NAME)



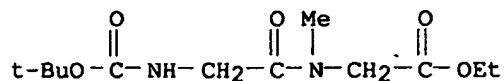
RN 80841-13-0 HCAPLUS

CN 1-Piperazineacetyl chloride, 4-methyl- (9CI) (CA INDEX NAME)



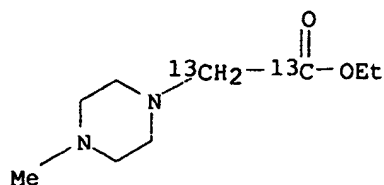
RN 145590-97-2 HCAPLUS

CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]glycyl-N-methyl-, ethyl ester (9CI) (CA INDEX NAME)

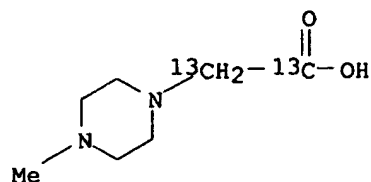


RN 856187-64-9 HCAPLUS

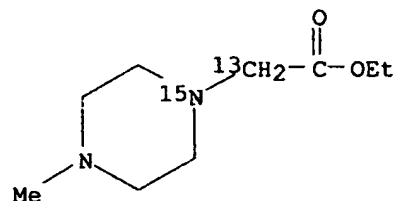
CN 1-Piperazineacetic-carboxy,α-13C2 acid, 4-methyl-, ethyl ester (9CI)  
(CA INDEX NAME)



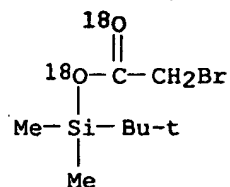
RN 856187-68-3 HCAPLUS

CN 1-Piperazineacetic-carboxy,  $\alpha$ - $^{13}\text{C}_2$  acid, 4-methyl- (9CI) (CA INDEX NAME)

RN 856187-72-9 HCAPLUS

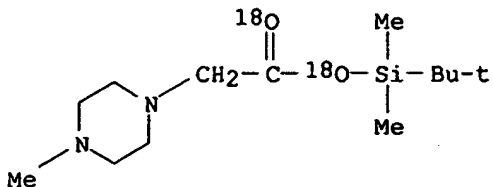
CN 1-Piperazine-1- $^{15}\text{N}$ -acetic- $\alpha$ - $^{13}\text{C}$  acid, 4-methyl-, ethyl ester (9CI) (CA INDEX NAME)

RN 856187-80-9 HCAPLUS

CN Acetic- $^{18}\text{O}_2$  acid, bromo-, (1,1-dimethylethyl)dimethylsilyl ester (9CI) (CA INDEX NAME)

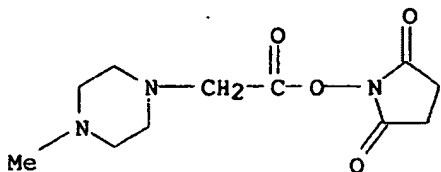
RN 856187-83-2 HCAPLUS

CN 1-Piperazineacetic- $^{18}\text{O}_2$  acid, 4-methyl-, (1,1-dimethylethyl)dimethylsilyl ester (9CI) (CA INDEX NAME)



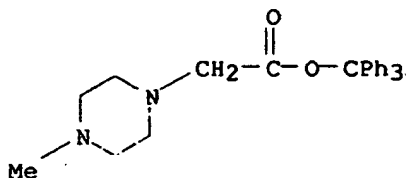
RN 856188-06-2 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[(4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA INDEX NAME)



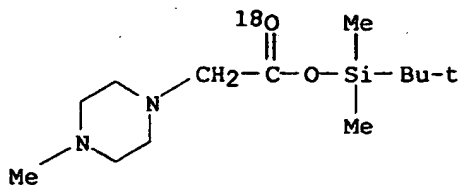
RN 857027-02-2 HCAPLUS

CN 1-Piperazineacetic acid, 4-methyl-, triphenylmethyl ester (9CI) (CA INDEX NAME)



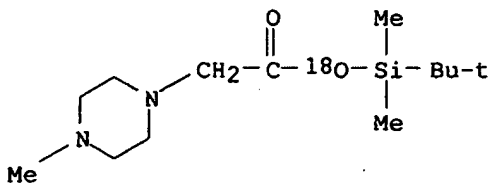
RN 857027-04-4 HCAPLUS

CN 1-Piperazineacetic-180 acid, 4-methyl-, 160-[(1,1-dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)

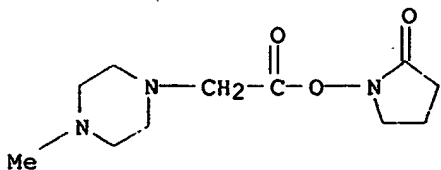


RN 857027-05-5 HCAPLUS

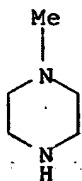
CN 1-Piperazineacetic-180 acid, 4-methyl-, 180-[(1,1-dimethylethyl)dimethylsilyl] ester (9CI) (CA INDEX NAME)



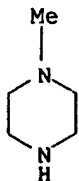
RN 857027-09-9 HCAPLUS  
 CN 2-Pyrrolidinone, 1-[[[(4-methyl-1-piperazinyl)acetyl]oxy]- (9CI) (CA INDEX NAME)



IT 109-01-3P 34352-59-5P 856187-57-0P  
 856187-76-3P 856187-87-6P 856187-98-9P  
 856188-62-0P 856290-53-4P 856290-55-6P  
 857027-06-6DP, salts 857027-08-8P 857027-10-2P  
 857027-11-3P 857027-12-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (mixts. of isobarically labeled analytes and fragments ions derived therefrom)  
 RN 109-01-3 HCAPLUS  
 CN Piperazine, 1-methyl- (8CI, 9CI) (CA INDEX NAME)



RN 34352-59-5 HCAPLUS  
 CN Piperazine, 1-methyl-, dihydrochloride (8CI, 9CI) (CA INDEX NAME)

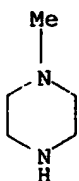


●2 HCl

RN 856187-57-0 HCAPLUS  
 CN Piperazine, 1-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

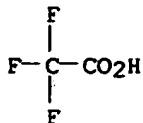
CM 1

CRN 109-01-3  
 CMF C5 H12 N2

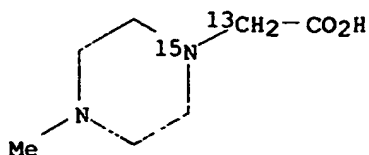


CM 2

CRN 76-05-1  
 CMF C2 H F3 O2

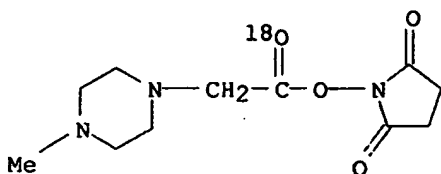


RN 856187-76-3 HCAPLUS  
 CN 1-Piperazine-1-15N-acetic-α-13C acid, 4-methyl- (9CI) (CA INDEX NAME)

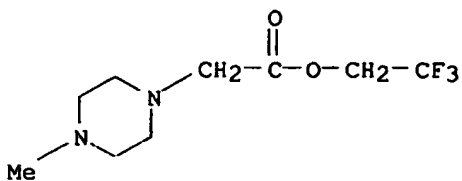


RN 856187-87-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[4-methyl-1-piperazinyl)acetyl-18O]oxy]- (9CI)  
(CA INDEX NAME)



RN 856187-98-9 HCAPLUS  
CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoroethyl ester,  
dihydrochloride (9CI) (CA INDEX NAME)

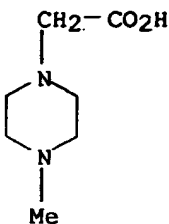


● 2 HCl

RN 856188-62-0 HCAPLUS  
CN 1-Piperazineacetic acid, 4-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

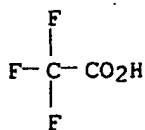
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CMF C7 H14 N2 O2

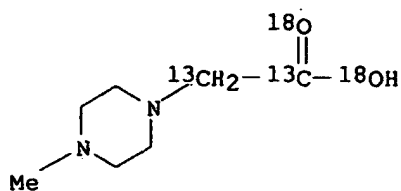


CM 2

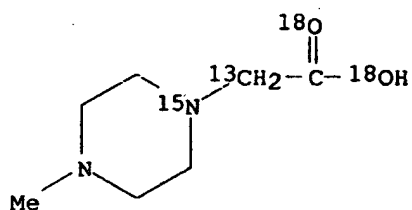
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CMF C2 H F3 O2



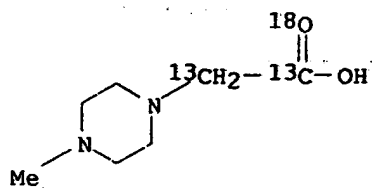
RN 856290-53-4 HCAPLUS  
 CN 1-Piperazineacetic-carboxy, $\alpha$ - $^{13}\text{C}$ - $^{18}\text{O}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



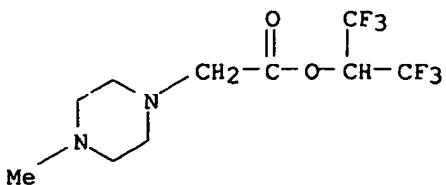
RN 856290-55-6 HCAPLUS  
 CN 1-Piperazineacetic- $\alpha$ - $^{13}\text{C}$ -1- $^{15}\text{N}$ - $^{18}\text{O}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



RN 857027-06-6 HCAPLUS  
 CN 1-Piperazineacetic-carboxy, $\alpha$ - $^{13}\text{C}$ - $^{18}\text{O}$  acid, 4-methyl- (9CI) (CA INDEX NAME)



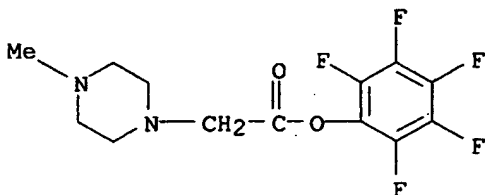
RN 857027-08-8 HCAPLUS  
 CN 1-Piperazineacetic acid, 4-methyl-, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



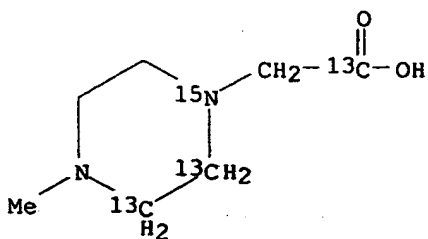
●2 HCl

RN 857027-10-2 HCAPLUS

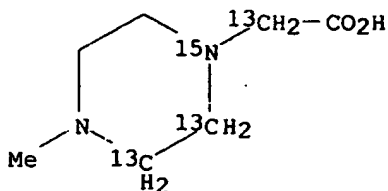
CN 1-Piperazineacetic acid, 4-methyl-, pentafluorophenyl ester (9CI) (CA INDEX NAME)



RN 857027-11-3 HCAPLUS

CN 1-Piperazine-2,3-<sup>13</sup>C2-1-<sup>15</sup>N-acetic-carboxy-<sup>13</sup>C acid, 4-methyl- (9CI) (CA INDEX NAME)

RN 857027-12-4 HCAPLUS

CN 1-Piperazine-2,3-<sup>13</sup>C2-1-<sup>15</sup>N-acetic- $\alpha$ -<sup>13</sup>C acid, 4-methyl- (9CI) (CA INDEX NAME)

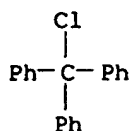
IT 76-83-5, Trityl-chloride



RL: RCT (Reactant); RACT (Reactant or reagent)  
(resin; mixts. of isobarically labeled analytes and fragments ions  
derived therefrom)

RN 76-83-5 HCAPLUS

CN Benzene, 1,1',1''-(chloromethylidyne)tris- (9CI) (CA INDEX NAME)

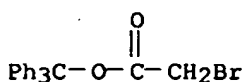


IT 857027-01-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(resin; mixts. of isobarically labeled analytes and fragments ions  
derived therefrom)

RN 857027-01-1 HCAPLUS

CN Acetic acid, bromo-, triphenylmethyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:869473 HCAPLUS

DOCUMENT NUMBER: 137:365991

TITLE: Methods for isolation and labeling of sample  
molecules using solid supports coupled to  
reactive, cleavable, and tagging functional groups  
Aebersold, Rudolf H.; Zhou, Huilin  
USA

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE: U.S. Pat. Appl. Publ., 29 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002168644	A1	20021114	US 2001-858198	20010514
CA 2447874	AA	20021121	CA 2002-2447874	20020514
WO 2002093131	A2	20021121	WO 2002-US15500	20020514
WO 2002093131	A3	20040527		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,				
GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,				
GN, GQ, GW, ML, MR, NE, SN, TD, TG				

*parent to this applic.*

EP 1456632 A2 20040915 EP 2002-731818 20020514  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 JP 2005503540 T2 20050203 JP 2002-589762 20020514  
 US 2004110186 A1 20040610 US 2003-615320 20030707  
 US 2004265810 A1 20041230 US 2004-477619 20040712  
 PRIORITY APPLN. INFO.: US 2001-858198 A 20010514  
 WO 2002-US15500 W 20020514

AB The invention provides methods for labeling a mol. by contacting a sample mol. with a solid support coupled to a chemical group comprising a cleavable functional group, one or more functional groups, and a reactive group for the sample mol., under conditions allowing the sample mol. to covalently bind to the reactive group; and cleaving the cleavable functional group, thereby releasing the sample mol. comprising the one or more functional groups, which can be a tag. The invention also provides a solid support covalently coupled to a chemical group comprising a cleavable functional group, a mass spectrometry tag and a reactive group for covalently attaching a sample mol., wherein the cleavable functional group, the tag and the reactive group are positioned relative to each other to allow transfer of the tag to the sample mol. upon cleavage of the cleavable functional group. Glass beads were functionalized with amino groups, reacted with Fmoc protected photolinker [4-[4-[1-(Fmocamino)ethyl]-2-methoxy]-5-nitrophenoxy]butanoic acid, deprotected and reacted with iodoacetic anhydride. Cysteine-containing laminin B peptide was reduced by tris(2-carboxyethyl)phosphine and reacted with the reactive glass beads. The beads were washed and exposed to UV light for photocleavage. The leucine-labeled peptide was detected by mass spectrometry.

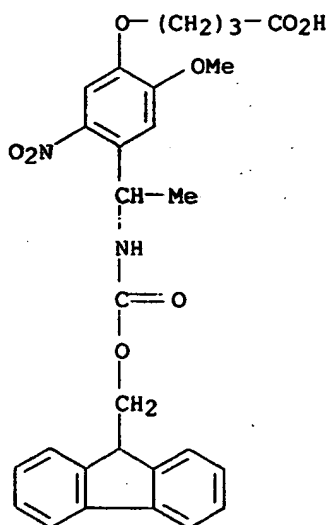
IT 162827-98-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(Fmoc-protected photolinker, in preparation of reactive support beads; isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)

RN 162827-98-7 HCAPLUS

CN Butanoic acid, 4-[4-[1-[[[(9H-fluoren-9-ylmethoxy)carbonyl]amino]ethyl]-2-methoxy-5-nitrophenoxy]- (9CI) (CA INDEX NAME)



IT 7782-39-0, Deuterium, analysis

RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)  
 (amino acid tag containing; isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)

RN 7782-39-0 HCAPLUS

CN Deuterium (7CI, 8CI, 9CI) (CA INDEX NAME)

D-D

IT 7726-95-6, Bromine, analysis 7782-50-5, Chlorine, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (functional group containing; isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)

RN 7726-95-6 HCAPLUS

CN Bromine (8CI, 9CI) (CA INDEX NAME)

Br-Br

RN 7782-50-5 HCAPLUS

CN Chlorine (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

Cl-Cl

IT 474759-87-0P

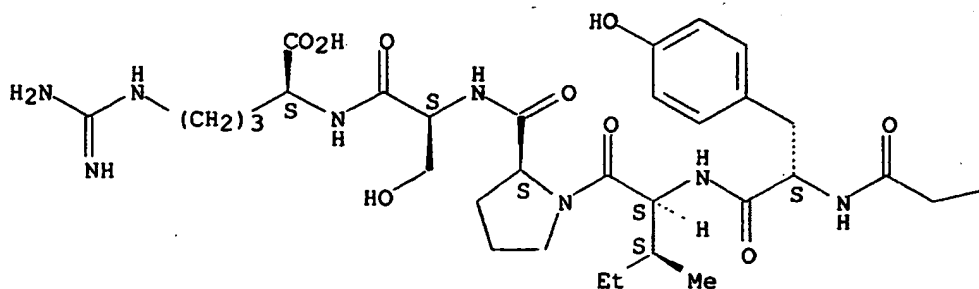
RL: PRP (Properties); PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)

RN 474759-87-0 HCAPLUS

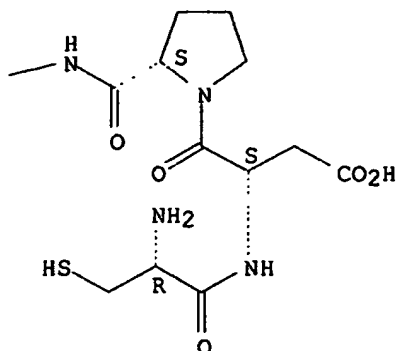
CN L-Arginine, L-cysteinyl-L- $\alpha$ -aspartyl-L-prolylglycyl-L-tyrosyl-L-isoleucyl-L-prolyl-L-seryl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

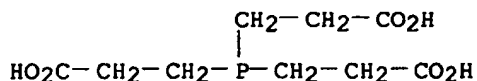
PAGE 1-A



PAGE 1-B



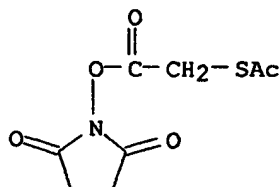
IT 5961-85-3DP, Tris(2-carboxyethyl)phosphine, reaction products with polypeptide 7803-49-8DP, Hydroxylamine, reaction products with polypeptide 76931-93-6DP, N-Succinimidyl S-acetylthioacetate, reaction products with polypeptide  
 RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)  
 RN 5961-85-3 HCAPLUS  
 CN Propanoic acid, 3,3',3''-phosphinidynetris- (9CI) (CA INDEX NAME)



RN 7803-49-8 HCAPLUS  
 CN Hydroxylamine (8CI, 9CI) (CA INDEX NAME)

H<sub>2</sub>N-OH

RN 76931-93-6 HCAPLUS  
 CN Ethanethioic acid, S-[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-2-oxoethyl] ester (9CI) (CA INDEX NAME)



IT 7803-49-8, Hydroxylamine, reactions 54907-61-8,

Iodoacetic anhydride 129785-85-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(isolation and labeling of sample mols. using solid supports coupled to reactive, cleavable, and tagging functional groups)

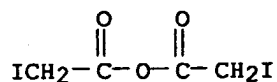
RN 7803-49-8 HCAPLUS

CN Hydroxylamine (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_2\text{N}-\text{OH}$ 

RN 54907-61-8 HCAPLUS

CN Acetic acid, iodo-, anhydride (6CI, 9CI) (CA INDEX NAME)

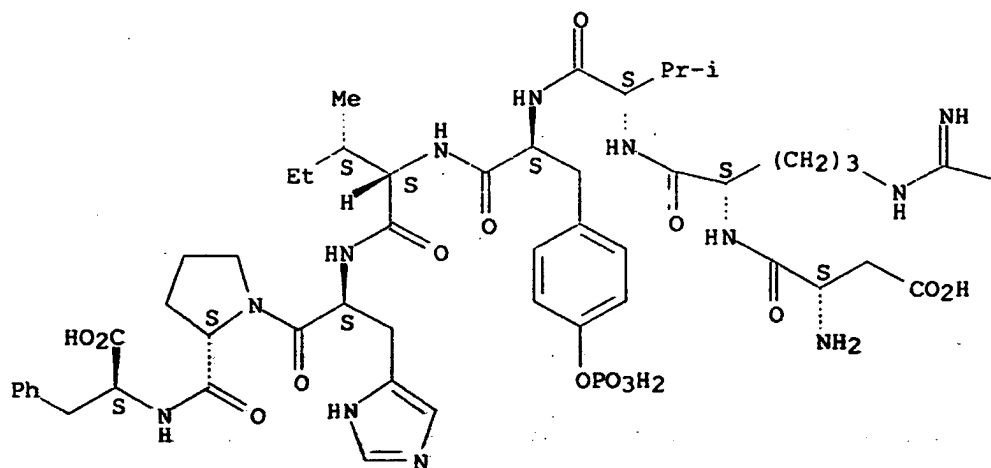


RN 129785-85-9 HCAPLUS

CN Angiotensin II, 5-L-isoleucine-, dihydrogen phosphate (ester) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



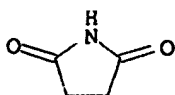
PAGE 1-B

—NH<sub>2</sub>

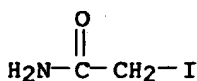
IT 60267-61-ODP, Ubiquitin, conjugates with polypeptides  
 RL: ANT (Analyte); PUR (Purification or recovery); RCT (Reactant); ANST  
 (Analytical study); PREP (Preparation); RACT (Reactant or reagent)  
 (labeling of; isolation and labeling of sample mols. using solid  
 supports coupled to reactive, cleavable, and tagging functional groups)  
 RN 60267-61-0 HCAPLUS  
 CN Ubiquitin (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 123-56-8D, Succinimide, esters 144-48-9, Iodoacetamide  
 RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical  
 study); RACT (Reactant or reagent)  
 (reactive group containing; isolation and labeling of sample mols. using  
 solid supports coupled to reactive, cleavable, and tagging functional  
 groups)  
 RN 123-56-8 HCAPLUS  
 CN 2,5-Pyrrolidinedione (9CI) (CA INDEX NAME)

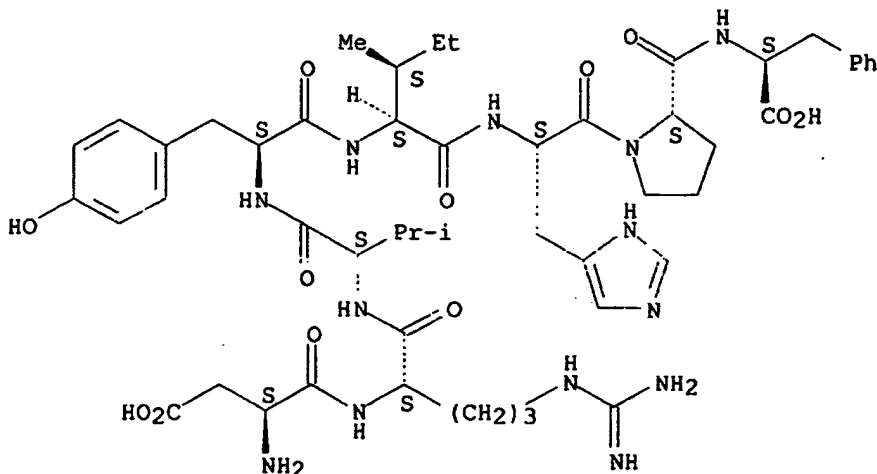


RN 144-48-9 HCAPLUS  
 CN Acetamide, 2-iodo- (8CI, 9CI) (CA INDEX NAME)



IT 4474-91-3  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (unclaimed sequence; isolation and labeling of sample mols. using solid  
 supports coupled to reactive, cleavable, and tagging functional groups)  
 RN 4474-91-3 HCAPLUS  
 CN Angiotensin II, 5-L-isoleucine- (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L11 ANSWER (5) OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:924099 HCAPLUS

DOCUMENT NUMBER: 136:50669

TITLE: Selective labeling and isolation of phosphopeptides and applications to proteome analysis

INVENTOR(S): Aebersold, Ruedi; Zhou, Hulin

PATENT ASSIGNEE(S): University of Washington, USA

SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096869	A1	20011220	WO 2001-US18988	20010612
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1295123	A1	20030326	EP 2001-944486	20010612
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004503780	T2	20040205	JP 2002-510947	20010612
US 2002049307	A1	20020425	US 2001-880713	20011018
PRIORITY APPLN. INFO.:			US 2000-210972P	P 20000612
			WO 2001-US18988	W 20010612

AB A method for selective labeling of phosphate groups in natural and synthetic oligomers and polymers in the presence of chemical related groups such as carboxylic acid groups. The method is specifically applicable to biol. oligomers and polymers, including phosphopeptides, phosphoproteins and phospholipids. In a specific embodiment, selective labeling of

phosphate groups in proteins and peptides, for example, facilitates separation, isolation and detection of phosphoproteins and phosphopeptides in complex mixts. of proteins. Selective labeling can be employed to selectively introduce phosphate labels at phosphate groups in an oligomer or polymer, e.g., in a peptide or protein. Detection of the presence of the label, is used to detect the presence of the phosphate group in the oligomer or polymer. The method is useful for the detection of phosphoproteins or phosphopeptides. The phosphate label can be a colorimetric label, a radiolabel, a fluorescent or phosphorescent label, an affinity label or a linker group carrying a reactive group (or latent reactive group) that allows selective attachment of the oligomer of polymer (protein or peptide) to a phosphate label, to an affinity label or to a solid support. The method can be combined with well-known methods of mass spectrometry to detect and identify phosphopeptides and phosphoproteins.

IT 9001-04-1, Pyruvate decarboxylase  
 RL: ANT (Analyte); ANST (Analytical study)  
 (isoenzyme 1; selective labeling and isolation of phosphopeptides and applications to proteome anal.)  
 RN 9001-04-1 HCAPLUS  
 CN Decarboxylase, pyruvate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 9001-41-6, Glucose 6-phosphate isomerase 9001-50-7,  
 Glyceraldehyde 3- phosphate dehydrogenase 9001-59-6, Pyruvate  
 kinase 9001-60-9, L-Lactate dehydrogenase 9001-83-6,  
 Phosphoglycerate kinase 9014-08-8, Enolase 9024-52-6,  
 Aldolase 9032-62-6, Phosphoglycerate mutase  
 RL: ANT (Analyte); ANST (Analytical study)  
 (selective labeling and isolation of phosphopeptides and applications  
 to proteome anal.)  
 RN 9001-41-6 HCAPLUS  
 CN Isomerase, glucose phosphate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-50-7 HCAPLUS  
 CN Dehydrogenase, glyceraldehyde phosphate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-59-6 HCAPLUS  
 CN Kinase (phosphorylating), pyruvate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-60-9 HCAPLUS  
 CN Dehydrogenase, lactate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-83-6 HCAPLUS  
 CN Kinase (phosphorylating), phosphoglycerate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9014-08-8 HCAPLUS  
 CN Hydratase, phosphoenolpyruvate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9024-52-6 HCAPLUS  
 CN Aldolase, fructose diphosphate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9032-62-6 HCAPLUS  
 CN Phosphomutase, glycerate (9CI) (CA INDEX NAME)



\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 7782-39-0, Deuterium, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (selective labeling and isolation of phosphopeptides and applications  
 to proteome anal.)  
 RN 7782-39-0 HCAPLUS  
 CN Deuterium (7CI, 8CI, 9CI) (CA INDEX NAME)

D-D

IT 151-51-9, Carbodiimide 9002-07-7, Trypsin  
 RL: CAT (Catalyst use); USES (Uses)  
 (selective labeling and isolation of phosphopeptides and applications  
 to proteome anal.)  
 RN 151-51-9 HCAPLUS  
 CN Methanediimine (9CI) (CA INDEX NAME)

HN=C=NH

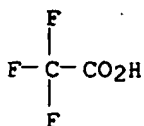
RN 9002-07-7 HCAPLUS  
 CN Trypsin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 51-85-4, Cystamine 76-05-1, Trifluoroacetic acid,  
 reactions 1969-54-6 7803-49-8, Hydroxyamine, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (selective labeling and isolation of phosphopeptides and applications  
 to proteome anal.)  
 RN 51-85-4 HCAPLUS  
 CN Ethanamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

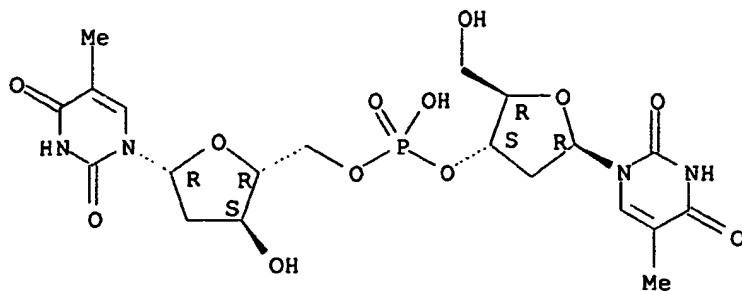
H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-S-S-CH<sub>2</sub>-CH<sub>2</sub>-NH<sub>2</sub>

RN 76-05-1 HCAPLUS  
 CN Acetic acid, trifluoro- (8CI, 9CI) (CA INDEX NAME)



RN 1969-54-6 HCAPLUS  
 CN Thymidine, thymidyl- (3'→5')- (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7803-49-8 HCAPLUS  
CN Hydroxylamine (8CI, 9CI) (CA INDEX NAME)

H<sub>2</sub>N-OH

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT